



**MAIN STREET WELL FIELD
ELKHART, INDIANA**

THIRD FIVE-YEAR REVIEW REPORT

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Approved by:

for Richard C. Karl
Director, Region 5 Superfund Division
United States Environmental Protection Agency

Date:

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**Main Street Well Field
Third Five-Year Review Report**

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List of Acronyms and Abbreviations

ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
FS	Feasibility Study
ICs	Institutional Controls
IDEM	Indiana Department of Environmental Management
MCL	Maximum Contaminant Level
NCP	The National Contingency Plan
NPL	National Priorities List
PPB	Parts Per Billion
PPM	Parts Per Million
PRPs	Potentially responsible parties
RA	Remedial Action
RAOs	Remedial Action Objectives
RI	Remedial Investigation
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
Site	Main Street Well Field Superfund Site
U.S. EPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
SVOCs	Semi-Volatile Organic Compounds

Executive Summary

The remedy for the Main Street Well Field Superfund Site in Elkhart, Indiana, included an air stripper system, an interceptor well system, a soil vapor extraction system, groundwater monitoring, and institutional controls (ICs) on two properties located on the east side of the well field. The Site achieved construction completion with the signing of the Preliminary Close Out Report on September 28, 1995. The trigger for this five-year review was the completion date of the second five-year review on September 30, 2002.

Operable unit #1 consisted of the installation of alternate water supply system, an air stripper, and 2 interceptor wells. Operable unit #1 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. Operable unit #2 consisted primarily of groundwater monitoring of specified wells, the removal and off-Site disposal of a paint layer from contaminated soils on the East Side, the installation of an in-situ soil vapor extraction system, the installation of interceptor wells, and the continued operation and maintenance of operable unit # 1. Operable unit # 2 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. Both operable unit #1 and operable unit #2 are expected to be protective of human health and the environment in the long-term upon attainment of all cleanup standards. In the interim, exposure pathways that could result in unacceptable risks are being controlled by preventing exposure to, or the ingestion of, contaminated groundwater. All threats at the Site have been addressed through the installation and operation of interceptor wells, the air stripper, and the soil vapor extraction system. Fencing is located around the remedial action components to prevent the interference with the remedial action. Site deed restrictions are needed to restrict exposure pathways and threats for future protectiveness. Long term protectiveness requires compliance with land use restrictions that prohibit interference with the hazardous waste cap and soil in the limited industrial land use area and groundwater use restrictions. The land use restrictions required by the ROD have not been implemented on East Side Durakool's property, and the restrictions that were recorded in 1992 on East Side Excel Property may need to be updated to benefit from the newer Indiana Code provisions for environmental restrictive covenants. Additionally, long-term stewardship requires monitoring and evaluating ICs. Current data indicate that a plume has not migrated off-Site. Sampling and analysis of groundwater monitoring wells for the presence of volatile organic compounds will be continued pursuant to the modified groundwater monitoring program. Current groundwater monitoring data indicate that the remedy is functioning as required to achieve groundwater goals. The air stripper and the interceptor wells are functioning as designed to ensure adequate performance of the remedial action.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): Main Street Well Field		
EPA ID (from WasteLAN): IND980794358		
Region: 5	State: Indiana	City/County: Elkhart
SITE STATUS		
NPL status: <input checked="" type="checkbox"/> Final <input type="checkbox"/> Deleted <input type="checkbox"/> Other (specify)		
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Complete		
Multiple OUs ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Construction completion date: <u>09/28/1995</u>	
Has site been put into reuse? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
REVIEW STATUS		
Lead agency: <input checked="" type="checkbox"/> EPA State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency		
Author name: L.Hill		
Author title: Remedial Project Manager	Author affiliation: U.S. EPA	
Review period: <u>01/08/2007</u> to <u>Signature Date of this five-year review</u>		
Date(s) of site inspection: <u>04/10/2007</u>		
Type of review: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input checked="" type="checkbox"/> Post-SARA <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> Regional Discretion </div> <div> <input type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL State/Tribe-lead </div> <div> <input type="checkbox"/> NPL-Removal only </div> </div>		
Review number: <input type="checkbox"/> 1 (first) <input type="checkbox"/> 2 (second) <input checked="" type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify)		
Triggering action: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input type="checkbox"/> Actual RA Onsite Construction at OU # <input type="checkbox"/> Construction Completion <input type="checkbox"/> Other (specify) </div> <div> <input type="checkbox"/> Actual RA Start at OU#____ <input checked="" type="checkbox"/> Previous Five-Year Review Report </div> </div>		
Triggering action date (from WasteLAN): <u>September 30, 2002</u>		
Due date (five years after triggering action date): <u>September 30, 2007</u>		

Five-Year Review Summary Form

Issues:

In 2006, two Respondents to the unilateral administrative order (UAO), dated February 21, 1992, that own property on the east-side of the well field (East Side Respondents) that contributes to the groundwater plume, filed for bankruptcy protection under Chapter 11 of the Bankruptcy Code. The United States Department of Justice filed proofs of claims on behalf of U.S. EPA in the bankruptcy proceedings against the East Side Respondents seeking past costs, future oversight costs, and compliance with the requirements of the UAO including continued monitoring and operation and maintenance of the east-side monitoring wells, and an air stripper, two interceptor wells and water treatment facility that are part of the well field that the East Side Respondents share responsibility for with another group of Respondents to the UAO that own property on the west-side of the Site (West Side Respondents). At this time it is unknown whether the East Side Respondents will comply with the ongoing UAO requirements, or whether U.S. EPA will be required to monitor the east side wells until groundwater cleanup goals are achieved. In addition, the UAO required implementation of deed restrictions on the east-side properties in compliance with the Record of Decision (ROD) dated March 29, 1991. The required ICs have only been recorded on one of the two east-side properties. A restrictive covenant needs to be recorded for the second east-side property. In addition, the existing land use restriction may need to be modified to benefit from new restrictive covenant requirements pursuant to the Indiana Code. The ICs are required until groundwater cleanup goals have been achieved. Additionally, effective ICs must be monitored and maintained to assure long-term protectiveness.

- Some contaminants exceed the MCLs and cleanup goals.
- Effective Institutional Controls on East Side Properties are needed.

Recommendations and Follow-up Actions:

The operations and maintenance activities should be continued for the air stripper. Groundwater monitoring and sampling should be continued for the Site. Environmental restrictive covenants need to be fully implemented for the two properties on the east-side of the Site and the existing land use restriction may need to be modified to benefit from new restrictive covenant requirements pursuant to the Indiana Code.

- Continue to collect and analyze groundwater samples; conduct operation and maintenance related activities; and, submit reports.
- Develop an IC Plan to further evaluate existing ICs; contact East Side Respondents or current property owners to implement restrictive covenants, and assure long-term stewardship by revising O&M Plan to ensure effective ICs.

Protectiveness Statement(s):

The remedy at the Main Street Well Field Site included operable unit #1 and operable unit # 2. Operable unit #1 consisted of the installation of alternate water supply system, an air stripper, and 2 interceptor wells. Operable unit #1 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. Operable unit #2 consisted primarily of groundwater monitoring of specified wells, the removal and off-Site disposal of a paint layer from contaminated soils on the East Side, the installation of an in-situ soil vapor extraction system, the installation of interceptor wells, and the continued operation and maintenance of operable unit # 1. Operable unit # 2 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. Both operable unit #1 and operable unit #2 are expected to be protective of human health and the environment in the long-term upon attainment of all cleanup standards. In the interim, exposure pathways that could result in unacceptable risks are being controlled by preventing exposure to, or the ingestion of, contaminated groundwater. All threats at the Site have been addressed through the installation and operation of interceptor wells, the air stripper, and the soil vapor extraction system. Fencing is located around the remedial action components to prevent the interference with the remedial action. Site deed restrictions are needed to restrict exposure pathways and threats for future protectiveness. Long term protectiveness requires compliance with land use restrictions that prohibit interference with the hazardous waste cap and soil in the limited industrial land use area and groundwater use restrictions. The land use restrictions required by the ROD have not been implemented on East Side Durakool's property, and the restrictions that were recorded in 1992 on East Side Excel Property may need to be updated to benefit from the newer Indiana Code provisions for environmental restrictive covenants. Additionally, long-term stewardship requires monitoring and evaluating ICs. Current data indicate that a plume has not migrated off-Site. Sampling and analysis of groundwater monitoring wells for the presence of volatile organic compounds will be continued pursuant to the modified groundwater monitoring program. Current groundwater monitoring data indicate that the remedy is functioning as required to achieve groundwater goals. The air stripper and the interceptor wells are functioning as designed to ensure adequate performance of the remedial action.

Other Comments:

There are no other issues which impact the protectiveness of the remedy.

I. Introduction

The purpose of the five-year review is to determine whether the remedy at a site is protective of human health and the environment. The objective of this five-year review report is to summarize the protectiveness of the remedy, identify issues of concern, and to provide recommendations for addressing those issues. U.S. EPA prepared this five-year review pursuant to Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) §121 which states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

U.S. EPA also prepared this five-year review pursuant to The National Contingency Plan (NCP); 40 CFR § 300.430(f)(4)(ii) which states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

This is the third five-year review for the Site. The triggering action for this statutory review is the date of the last five-year review for the Site. The last five-year review was signed on September 30, 2002. These reviews are required due to the fact that hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

II. Site Chronology

Table 1

Date	Event
1950's	Contamination of Site reported.
12/30/82	Proposed listing on U.S. EPA National Priorities List
9/08/83	Final listing on U.S. EPA National Priorities List
4/1985	Phased Remedial Investigation/Feasibility Study conducted at the Site for operable unit 1.
8/02/85	ROD # 1 issued selecting a remedial action for operable unit 1.
1/23/91	Proposed plan identifying U.S. EPA's preferred remedy for operable unit 2 presented to the public.
3/29/91	ROD # 2 issued by U.S. EPA addressing operable unit 2 .
2/21/92	Administrative Order required the responsible parties to implement remedial measures.
1/21/94	Pre-final and final inspection of remedial action.
2/22/94	Remedial Action report submitted to U.S. EPA by responsible parties.
02/1994	O&M Plan submitted to U.S. EPA.
9/08/94	Remedial Action Report submitted by responsible party.
1995	Certified Completion of on-Site construction and remedial action activities.
9/28/95	Preliminary close-out report signed.
09/30/97	First five year review signed.
09/16/02	Site inspection in support of second five year review.
09/30/02	Second five year review signed.
01/05/06	U.S. EPA modified the East side groundwater monitoring program.
01/13/06	U.S. EPA modified the West side groundwater monitoring program.
04/11/07	Site Inspection in support of third five year review.

III. Background

Physical Characteristics

The Main Street Well Field Site is located in the City of Elkhart, Indiana, at 942 North Main Street. The Site consists of the well field, approximately 48 acres of property, as well as certain properties to the east and west of the well field that contribute to the groundwater plume. The Site is bordered on the north, south, and west by residential areas. Industrial and commercial facilities border the Site on the northeast, east, and southwest. Christiana Creek enters the Site at the northwestern corner and flows through the Site where it is diverted into recharge ponds. The creek exits the Site on the southeast side and discharges to the St. Joseph River. (See Attachment 1.)

Land and Resource Use

The historic and current land uses of the Site are similar. The Site has been used as the City of Elkhart's primary source of water. The well field contains 15 production wells, 2 interceptor/production wells, 6 recharge ponds, an air stripper unit, a water treatment facility, and storage tanks.

As mentioned above, the current land use for the surrounding area is residential, light industrial, and agricultural. The City of Elkhart added biking and jogging trails near the Site in 2001. It is anticipated that a mix of land uses similar to the current uses will continue around the Site in the future.

Near the Site, there is a coarse sand and gravel unconfined aquifer system ranging from about 140 to 215 feet in thickness. Within the Site area, glacial outwash occurs at depths ranging from 42 to 58 feet. Regionally, below the outwash is a gray and hard to very dense silty clay layer which separates the unconfined aquifer from a deeper aquifer. The lower aquifer ranges from 0 to 120 feet thick within the city boundaries. The confining layer is at least 10 to 160 feet thick. The lower aquifer appears to be absent under the Main Street Well Field Site. Beneath the lower aquifer lies the Devonian and Mississippian shale bedrock.

The regional aquifer is part of a designated sole source aquifer. The direction of the regional groundwater flow is generally south, toward the St. Joseph River and its tributary, Christiana Creek. This southerly flow is more predominant east of the well field. In the area west of the well field, the groundwater tends to flow from northwest to southeast toward the well field. The groundwater flow in this area is influenced by natural factors such as Christiana Creek and by groundwater pumping and recharge. The effect of Main Street Well Field on groundwater flow patterns is dependent upon the following: groundwater levels; the number of wells; the location of wells; the rate of pumping of the supply wells; the recharge from Christiana Creek; and other industrial groundwater use and recharge in the area.

The water-table configuration is dramatically influenced by artificial recharge and draw-down from the industrial wells in the area. The response of the water table is directly

related to the number of wells pumping and the respective pumping rates. The groundwater flow patterns are also impacted daily, or even hourly. Therefore, the dynamic nature of the unconfined aquifer and impact of the wells creates the potential for groundwater mixing and rapid fluctuations in flow velocities.

History of Contamination

Since the 1920's, industry near the Main Street Well Field utilized trichloroethene and other chlorinated solvents as part of their process operations. Groundwater contamination was discovered as a result of releases from a fuel tank farm east of the Site during the 1950's. The contamination was addressed by excavating 6 recharge ponds in the well field and diverting water to the ponds from Christiana Creek. Also, the Elkhart Water Works acquired the water rights to the Christiana Creek from the Indiana-Michigan state line to the Main Street Well Field.

In 1981, U.S. EPA conducted a national groundwater supply survey. The Site was found to be contaminated as follows: trichloroethene (94 ug/L); 1,2-dichloroethene (33 ug/L); 1,1,1-trichloroethane (5 ug/L); and 1,1-dichloroethene (2 ug/L). In response to this survey, the City of Elkhart performed the following actions which resulted in a temporary decrease of volatile organic concentrations:

- installed observation wells to monitor groundwater on and near Excel Corporation and Durakool - two PRP companies on the East Side of the Site;
- constructed two interceptor wells in the well field on the eastern edge of the property to prevent contaminated groundwater from entering the well field;
- shut down highly contaminated production wells near the interceptor wells;
- discharged the interceptor wells to Christiana Creek under a State permit.

In 1982, Durakool and Excel Corporation conducted investigations of the extent of trichloroethene contamination at their East side properties. Studies revealed that trichloroethene concentrations ranged from 60 ug/L to 570,000 ug/L. Subsurface soil samples showed trichloroethene contamination to depths of 40 feet, with concentrations ranging from 5,300 ug/L to 270,000 ug/L. In 1984, trichloroethene concentrations began to increase on the West side of the well field; and by 1985, all 15 production wells showed measurable trichloroethene levels.

Initial Response

As discussed above, groundwater sampling showed that the water quality at the Site was contaminated with volatile organic compounds. This resulted in the Site being proposed for the National Priorities List in December 1982. The Site was listed on the final National Priorities List on September 8, 1983, (48 Federal Register 40658). Observation wells were

installed near the Site and identified likely sources of the contamination. The City of Elkhart implemented short term remedial measures which proved to be successful until 1985 when trichloroethene was observed at significantly elevated levels in all of the production wells.

In April 1985, U.S. EPA initiated a remedial investigation/feasibility study at the Site. U.S. EPA divided the facility response actions into two operable units due to the complexity of the Site. Operable unit #1 addressed measures for an alternate water supply for the community in the first Record of Decision signed in August 1985. Operable unit #2 addressed the remaining Site issues through the second ROD signed in March 1991. Both RODs are discussed in more detail in the Remedial Actions section.

Basis for Taking Action Contaminants

The groundwater investigations indicated that hazardous organic substances were detected in the groundwater at the Site above the Federal and/or State drinking water standards. Among these hazardous substances were trichloroethene, vinyl chloride, and tetrachloroethene. Other hazardous substances such as xylenes, lead, and trichloroethene were detected in a residual paint layer in surface soils on the east-side of the Site.

IV. Remedial Actions

Remedy Selection

Operable Unit # 1

The ROD for operable unit #1 for the Main Street Well Field Site was signed in August 1985. The remedial action objectives were developed as a result of data collected during sampling efforts and studies. The remedial action objectives for the Site were as described below:

Source Control Response Objective

- Reduce risks to human health by preventing direct contact with contaminated groundwater;
- Reduce risks to human health by preventing ingestion of contaminated groundwater.

These objectives were accomplished by the following remedial actions:

- providing an alternate water supply to the City of Elkhart;
- installation of an air stripper treatment system;
- installation of 2 interceptor wells;
- reconfiguration of production well flows.

The air stripper treatment system went on-line in September 1997 with a capacity of 6.45 million gallons per day. Seven production wells plus the two East side interceptor wells were piped to the air stripping units.

Operable Unit # 2

While the remedial components for the first ROD were underway, U.S. EPA issued a remedial investigation report for operable unit 2 in May 1989. This report was supplemented by a technical memorandum and feasibility study for operable unit 2 in January 1991. A second ROD was signed on March 29, 1991. The purpose of the second ROD was to provide remediation of the soil and groundwater contamination on the east side of the well field and to provide the restoration of the well field by intercepting the plume from undefined sources on the west side of the well field.

The second ROD required the West Side PRPs to:

- install additional interceptor wells on the West Side of the well field to prevent plume migration into the well field and to provide well field restoration;
- implement a groundwater monitoring program to detect changes in the chemical concentrations, direction and rate of groundwater flow at and adjacent to the West Side PRPs' property;
- perform groundwater monitoring of specified monitoring, interceptor and production wells to ensure standards are met and maintained;
- continue operation and maintenance of the air stripper, interceptor wells and all associated parts of the system.

The second ROD required the East Side PRPs (Excel Corporation and Durakool) to:

- implement a groundwater monitoring program to detect changes in the chemical concentrations, direction and rate of ground water flow at and adjacent to the East Side PRPs' property;
- perform groundwater monitoring of specified monitoring, interceptor and production wells to ensure standards are met and maintained;
- delineate the extent of the volatile organic compound contamination in the soils;
- design, construct, and operate an in-situ soil vapor extraction system to remove volatile organic compounds from contaminant soils;

- remove and dispose off-Site the paint residue layer and areas of soil exceeding clean up standards;
- continue operation and maintenance of the air stripper, interceptor wells and all associated parts of the system;
- provide enforceable deed restrictions to prevent access and use;
- of the ground water beneath the Excel Corporation and Durakool;
- properties until soil and groundwater cleanup goals are met and sustained.

Remedy Implementation

A unilateral administrative order was issued to the responsible parties in January 1992 and became effective in February 1992. This order, among other things, transferred financial responsibility for the operation and maintenance of the air stripper to the East and West Side Respondents.

U.S. EPA approved the final remedial design report for the soil vapor extraction system on September 30, 1993. The remedial action construction activities commenced in October 1993. Construction of the soil vapor extraction system was completed in January 1994 and full scale operation of the system began in February 1994. The system consisted of 5 extraction wells and 2 separate blower stations. Soil vapor extraction blower station #1 was located on the East Side Respondent Excel Corporation's property and was connected to vapor extraction wells EW1, EW4A, EW5A, and EW6A. Soil vapor extraction blower station #2 was located on East Side Respondent Durakool's property and was connected to vapor extraction well EW2A.

On January 21, 1994, U.S. EPA conducted the final inspection of the remedial action. The Site achieved construction completion status when the Preliminary Close Out Report was signed on September 28, 1995. U.S. EPA and the State have determined that all remedial action construction activities were performed according to specifications. It is anticipated that the cleanup levels for all groundwater contaminants will be reached 20 years after the start of the remedial action. After all cleanup standards have been met, U.S. EPA will issue a Final Close Out Report.

System Operation and Maintenance

The East Side Respondents submitted an operation and maintenance (O&M) plan to U.S. EPA in February 1994. The plan included the O&M activities for the soil vapor extraction system. The O&M plan also included procedures for proper operation and inspection of the system. Inspections of the soil vapor extraction system consisted of, among other things, visual inspections of the system for leaks, excessive vibrations, noise, overheating conditions, and the

recording of operating parameters such as flow rates, temperatures, pressures, water levels, weather conditions, and maintenance activities performed.

The primary ongoing Site costs include expenses associated with the groundwater sampling, the maintenance of the groundwater monitoring and interceptor wells, the operation of the air stripper, the maintenance of the air stripper, operation of pumps, maintenance of pumps, tanks, and fencing. The ROD estimated annual O&M costs at \$130,000 to \$170,000. Current annual O&M costs are within an acceptable range.

Long-term protectiveness at the site requires compliance with land and groundwater use restrictions. Long-term stewardship is necessary to assure compliance with the designated use restrictions or ICs.¹ To ensure compliance with use restrictions, the monitoring requirement must be documented in the Site's O&M Plan. Therefore, the O&M Plan needs to be updated to document that the Site uses and use restrictions will continue to be monitored and documented annually at a minimum.

Institutional Controls

Institutional Controls are required to ensure the protectiveness of the remedy. Institutional controls are non-engineered instruments, such as administrative and legal controls that help to minimize the potential for exposure to contamination and that protect the integrity of the remedy. Institutional controls are required to assure long-term protectiveness for those areas that do not allow for unlimited use or unrestricted exposure (UU/UE). Institutional controls are also required to maintain the integrity of the remedy. The table below summarizes institutional controls for these restricted areas.

Table 2. Institutional Controls Summary Table

Media, Engineered Controls, & Areas that Do Not Support UU/UE Based on Current Conditions.	IC Objective	Title of Institutional Control Instrument Implemented (note if planned)
<i>Excel Property (East Side) - Soil treated to industrial cleanup standards.</i>	Prohibit residential or recreational use and prohibit interference with remedy	Land use restrictions reported as recorded as described below (plan to update to reflect Indiana Code requirements)
<i>Durakool Property (East Side)– property exceeds groundwater cleanup standards.</i>	Prohibit groundwater consumption or other use	Restrictive Covenant (planned as described below)

¹ “Long-term stewardship applies to sites where long-term management of contaminated media is necessary to protect human health and the environment. Long-term stewardship generally includes the establishment and maintenance of physical and legal controls, implementation entities, authorities, accountability mechanisms, information and data management systems, and resources that are necessary to ensure that these sites remain protective of human health and the environment.” *Long-Term Stewardship: Ensuring Environmental Site Cleanups Remain Protective Over Time*, (EPA 500-R-05-001, page 6) (September 2005)

A map which depicts the current conditions of the Site and areas which do not allow for UU/UE will be developed as part of the implementation of the institutional controls.

At this time, initial IC evaluation activities have determined that land use restrictions have been implemented on the Excel Company property. However, no ICs appear to have been recorded for the Durakool property.

The East Side Respondent Excel Corporation recorded "Land Use Restrictions" in the Elkhart County Recorder's Office on August 20, 1992. The objective of the restrictions was to reduce risks to human health by preventing direct contact or exposure to contaminated groundwater. Specifically, the property deed restrictions were as follows:

- no consumptive or other use of the groundwater underlying the Excel Corporation property for purposes other than compliance with the administrative order;
- no future use of the Excel Corporation property that may interfere with the work performed under the administrative order;
- except as contemplated by the administrative order, no residential or recreational use of the Excel Corporation property including, but not limited to, any construction of residences, excavation, grading, filling, drilling, mining or other construction or development, farming, placing of any waste material at any portion of the property or any other activity which may damage or impair the effectiveness of any remedial action undertaken pursuant to the administrative order, except with the approval of the U.S. EPA.

There is no record of institutional controls being recorded on East Side Respondent Durakool's property as required by the ROD and UAO.

An IC plan, which includes implementation of the environmental restrictive covenants will be completed by U.S. EPA within 12 months of the five year review. The IC plan will include a schedule for additional IC evaluation activities such as the creation of a map of restricted areas and title work to assure that recorded encumbrances will not interfere with restrictions. In addition, the IC plan will provide for updating the existing land use restriction on the Excel property to benefit from the Indiana Code provisions for environmental restrictive covenants.

Based on the site inspection, compliance with the land use restrictions was observed. There were no indications of new water sources on the property. There was no evidence of construction activities including excavation, drilling, or grading at the Site, or impairment of remedial action components at the Site. Recreational or residential installations were not observed at the Site.

V. Progress Since the Last Five Year Review

Since the last five-year review, the Site continued to operate in accordance with the RODs and the administrative orders. The protectiveness statement from the last review stated that the remedies selected for this Site remain protective of the public health and the environment. As well, the last five-year review recommended the continuation of the operation and maintenance of the air stripper and the groundwater monitoring wells until all performance standards are achieved. Operation and maintenance of the remedial action components have continued at the Site while the State and Federal agencies have monitored compliance with the remedy.

East Side

In June 2005, the East Side PRPs requested that U.S. EPA revise the East Side groundwater monitoring program. U.S. EPA responded to this request in a letter dated January 5, 2006. The major revisions to the monitoring program are summarized below in Table 3. Specific details of the modified groundwater monitoring program are included in this report as Attachments 2 and 3.

Table 3. Summary of East Side PRP Groundwater Monitoring Revisions

Eliminate the requirement to sample and analyze for TAL metals.
Eliminate the requirement to sample and analyze for PCE for all East Side monitoring wells.
Eliminate the requirement to sample well GMW-2 as long as the flow directions remain stable. Water levels must continue to be measured in this well.
Eliminate the requirement to sample common well MW-25.
Change the sampling frequency of the East Side wells from a quarterly basis to an annual basis.

Additionally, U.S. EPA required the East Side PRPs to discontinue the use of bailers for all future sampling events. Future groundwater samples should be collected using a submersible pump and micro-purge techniques, including collection of field parameters (turbidity, temperature, dissolved oxygen, oxidation-reduction potential, specific conductance, and pH) for more accurate data.

On March 2, 2006, Dana Corporation (formerly known as Durakool, Inc.), filed for bankruptcy protection in the United States Bankruptcy Court for the Southern District of New York. On September 21, 2006, the U.S. Department of Justice filed a proof of claim on behalf of U.S. EPA in the bankruptcy case seeking payment of oversight costs and future compliance with the UAO requirements. On October 30, 2006, Dura Automotive Systems of Indiana, Inc. (formerly known as Excel Corporation), filed for bankruptcy protection in the United States Bankruptcy Court for the District of Delaware. On May 1,

2007, the U.S. Department of Justice filed a proof of claim in the bankruptcy case seeking payment of oversight costs and future compliance with the UAO requirements.

West Side

Also, the West Side PRPs requested that U.S. EPA revise the west side groundwater monitoring program in a letter dated September 12, 2006. U.S. EPA responded to this request in a letter dated November 13, 2006. The major revisions to the monitoring program are summarized below in Table 4. Specific details of the modified groundwater monitoring program are included in this report as Attachments 3 and 4.

Table 4. Summary of West Side PRP Groundwater Monitoring Revisions

Eliminate the requirement to sample and analyze for cyanide.
Eliminate the requirement to sample and analyze metals provided that dissolved oxygen and oxidation-reduction potential are added to the list of field parameters for subsequent sampling events.
Eliminate the requirement to sample and analyze for TCA, DCA, and acetone.
Decrease the sampling frequency of the West Side wells to an annual basis provided that the PRPs conduct a statistical analysis to determine if there are quarterly variations in water quality.
Eliminate the requirement to monitor the water quality in wells MW-15R and MW-16R provided the flow directions do not change. Water levels must continue to be measured in these wells..
Sample well MW-25 rather than MW-24.
Continue the requirement to sample 1, 2-dichloroethene, tetrachloroethene, trichloroethene, and vinyl chloride.
Continue to retain all monitoring wells for hydraulic monitoring purposes.

U.S. EPA required all future groundwater samples to be collected using a submersible pump and micro-purge techniques, including collection of field parameters (turbidity, temperature, dissolved oxygen, oxidation-reduction potential, specific conductance, and pH) for more accurate data.

VI. Five-Year Review Process

Administrative Components

The Main Street Well Field Five-year Review team was led by Lolita Hill of U.S. EPA, Remedial Project Manager for the Main Street Well Field Superfund Site. Also, Stuart Hill, of

U.S. EPA, the Community Involvement Coordinator, and Craig Melodia, of the Office of Regional Counsel, participated in the Five-year Review process. The Indiana Department of Environmental Management was notified of the start of this review on January 8, 2007. Prabhakar Kasarabada assisted in the review as the representative for the State agency

From January 2007 to April 2007, the review team conducted document review, data review, and a Site Inspection to develop this five-year review report.

Community Involvement

U.S. EPA notified the public of this review in March 2007 through the Elkhart Truth newspaper, a newspaper distributed in the Elkhart, Indiana area. A copy of this five year review will be made available to the public at the Elkhart Public Library located at 300 South Second Street in Elkhart, Indiana. See Attachment 6.

Document Review

This five-year review consisted of a review of relevant documents including groundwater monitoring results, air stripper information, and soil vapor extraction system reports for the east and west sides of the Site. Applicable groundwater cleanup standards and performance standards for the remedy were reviewed.

East Side

The major cleanup standards for the east side of the Site are presented in Table 5.

Table 5. East Side Cleanup Standards

Contaminant	Groundwater (ug/L)	Soil (ug/L)
Trichloroethene	1.0	100
Tetrachloroethene	0.6	-
Vinyl chloride	0.3	-

Cleanup standards for the soil, groundwater, and air shall not exceed 1×10^{-4} based on potential future use for cumulative pathways. Groundwater monitoring shall continue on the East side until the clean up levels are maintained for 5 consecutive years after the close of the interceptor wells. Cumulative air stripper and soil vapor extraction emissions shall not exceed 3 pounds per hour, 15 pounds per day, or 25 tons per year.

West Side

The major cleanup standards for the west side of the Site included Federal Maximum Contaminant Levels for compounds detected in the groundwater. These compounds and their respective cleanup goals are provided in Table 6.

Table 6. West Side Cleanup Standards

Compound	Maximum Contaminant Level (ug/L)
trichloroethene	5.0
tetrachloroethene	5.0
vinyl chloride	2.0
1,1,1 –trichloroethane	200
trans-1,2-dichloroethene	100
cis-1,2-dichloroethene	70
Arsenic	50
Barium	1000
Chloroform	100
Cyanide	200

Groundwater monitoring for the west side of the Site shall continue until the cleanup levels are maintained for 5 consecutive years after the close of the interceptor wells.

Data Review

East Side

Since the last five year review, data have been collected from the east side groundwater monitoring wells. Groundwater monitoring wells were sampled annually for metals and quarterly for volatile organic compounds, including vinyl chloride, trichloroethene, and tetrachloroethene. (Refer to Attachment 7 for more details of the sampling events.) Vinyl chloride was not detected in the east side monitoring wells. Tetrachloroethene was not detected in the east side monitoring wells. Trichloroethene was detected in the east side monitoring wells as summarized in Table 7 below:

Table 7. Trichloroethene Detections in East Side Wells (2002 to 2007)

Monitoring Well	Concentration Range (ug/L)
MW-01	20 to 87 ug/L
MW-03	49 to 180 ug/L
MW-04	15 to 67 ug/L
MW-27	2.8 to 7.1 ug/L

Data were not collected from the east side soil vapor extraction system since 2000, when the system achieved the cleanup goals.

West Side

Groundwater monitoring on the west side of the Site includes monitoring of wells MW#13, MW#14, MW#15, MW#16, MW#17, MW#18, MW#20, and MW#21. Common program

wells are MW#24, MW#24-91, MW#25, MW#26, and GWTBI -01, and GWFB1-01. The wells are sampled semi-annually for volatile organics and sampled annually for inorganics. Analytical results show that inorganics such as metals were not detected in the groundwater samples above their respective maximum contaminant levels. (Refer to Attachment 8 for more details of the sampling events.) Contaminates were detected in MW-17, MW-18, MW-20, MW-24, MW-25 and MW-26R during the sampling events from 2002 to 2007 as summarized in Table 8 below:

Table 8. Summary of West Side Sampling Results (December 2005)

Contaminants	MW-17	MW-18	MW-20	MW-21	MW-24	MW-25	MW-26R
Trichloroethene		25 ug/L		23 ug/L, 24 ug/L			
Tetrachloroethene		2.2 ug/L					
Vinyl Chloride			3.2 ug/L				
1,1,1-trichloroethane		3.0 ug/L		3.1 ug/L			
cis-1,2-dichloroethene	12 ug/L			5.5 ug/L	10 ug/L	7.7 ug/L	7.7 ug/L

Site Inspection

An inspection at the Site was conducted on April 11, 2007, by Prabhakar Kasarabada of the Indiana Department of Environmental Management. The purpose of the inspection was to assess the protectiveness of the remedial action performed at the Site. The inspector observed that the City of Elkhart had built a recreation area along the West side of the Site which included paved biking trails, walking trails, swings, and benches. All remedial action components such as the groundwater monitors, air stripper columns, the pumps, and tanks were fenced or secured in buildings and segregated from potential disturbances by park patrons. All fences had gates which were locked and secured. Groundwater monitoring wells were observed at the Site. There were no indications of new water sources on the property. There was no evidence of construction activities including excavation, drilling, or grading at the Site, or impairment of remedial action components at the Site. Recreational or residential installations were not observed at the Site. There were no major issues noted related to the West side of the Site. (See Attachments 9 and 10.)

Interviews

At the time of the last five year review, U.S. EPA received calls from citizens who were concerned that paved bike trails along the Site would increase traffic and activity in the community. Neither U.S. EPA nor the Indiana Department of Environmental Management has received any complaints regarding the Site from any citizens or local authorities since the last review of the Site.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Yes. The review of documents, ARARs, risk assumptions, and the results of the Site inspection indicate that the remedy is functioning as intended by the Site RODs. The installation of the interceptor wells, the air stripper, and the soil vapor extraction system have achieved the remedial objectives to minimize the migration of contaminants to groundwater, and to prevent direct contact with, or ingestion of, contaminants in the groundwater and soil. Operation and maintenance of the interceptor wells, the air stripper, and the soil vapor extraction system have been effective. Equipment repairs or replacements to remedial systems were made as necessary and identified to the U.S EPA. Annual O&M costs are consistent with anticipated cost estimates and there are no indications of any difficulties with the remedy.

There were no opportunities for system optimization observed during this review. The monitoring well networks, the air stripper, and the soil vapor extraction system provided sufficient data to assess the progress of the remedy at the Site. There are no concerns that a plume may be migrating off-Site. Maintenance of the air stripper and monitoring wells was sufficient to maintain the overall integrity of the remedy. The soil vapor extraction system was shut down in 2002 because the cleanup goals were reached. The land use restrictions required by the ROD have not been implemented on East Side Durakool's property, and the restrictions that were recorded in 1992 on East Side Respondent Excel Corporation's property may need to be modified since the document that was recorded, titled "Land Use Restrictions", may not have the benefits of a restrictive covenant pursuant to the Indiana Code. No activities were observed that would have violated the land use restrictions required by the ROD, and no new uses of groundwater have been observed at the Site.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid?

Yes. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. However, in order for the remedy to be protective the long-term restrictive covenants need to be fully implemented on the east side properties to restrict use of groundwater and restrict residential or recreational use of the east side properties. The implemented covenant must be further studied to assure it is effective and may need to be modified to benefit from new restrictive covenant requirements pursuant to the Indiana Code.

Changes in Standards and Things To Be Considered

As the remedial work has been completed, some of the ARARs or performance standards cited in the RODs have been met. ARARs that still must be met at this time and that have been evaluated include: the Safe Drinking Water Act - Maximum Contaminant Levels (40

FR 141.11-141.16) from which many of the groundwater cleanup levels were derived. There have been no changes in these ARARs and no new standards affecting the protectiveness of the remedy.

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics

The exposure assumptions used to develop the Human Health Risk Assessment included both current exposures (older child trespasser, adult trespasser) and potential future exposures (young and older future child resident, future adult resident and future adult worker). There have been no changes in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment. These assumptions are considered to be conservative and reasonable in evaluating risk and developing risk-based cleanup levels. No change to these assumptions, or the cleanup levels developed from them is warranted. There has been no change to the standardized risk assessment methodology that could affect the protectiveness of the remedy. The remedy is progressing as expected and it is expected that all groundwater goals will be maintained in the future should the Site conditions and surroundings remain constant.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

Yes. No ecological targets were identified during the baseline risk assessment and none were identified during the five-year review. Therefore monitoring of ecological targets is not necessary. No weather-related events have affected the protectiveness of the remedy. As part of this five-year review U.S. EPA reviewed all land use restrictions on file that have been imposed on the east side properties. As previously discussed, there are no land use restrictions on file for the East Side Respondent Durakool's property, and the land use restriction that was recorded in 1992 on the East Side Respondent Excel Corporation's property may need to be modified because it does not comply with the requirements of a restrictive covenant pursuant to the Indiana Code, 13-11-2-193.5, which will be addressed in an IC Plan. Additionally, long-term stewardship requires the monitoring and review of the engineering controls and ICs to ensure long-term protectiveness. There is no other information that calls into question the protectiveness of the remedy.

Technical Assessment Summary

According to the data reviewed and the Site inspection, the remedy is functioning as intended by the final RODs. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. Some of the ARARs or performance standards for the Site, as described in the ROD, have been met. There are some performance standards that have not been achieved for volatile organic compounds. There have been no changes in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment, and there have been no changes to the standardized risk assessment methodology that could affect the protectiveness of the

remedy. There is no other information that calls into question the protectiveness of the remedy.

VIII. Issues

As indicated in Tables 5, 6, 7, and 8, the maximum contaminant levels for some organic compounds are exceeded at groundwater monitoring wells on the East and West sides of the Site. However, at this time, these excursions do not appear to affect the protectiveness of the remedy. The lack of institutional controls on the east side properties does not currently affect the protectiveness of the remedy since there is no evidence that groundwater is being extracted or used, or that current land use is negatively impacting the remedy. For future, long-term protectiveness effective institutional controls must be implemented, monitored and maintained including land use restrictions in the form of restrictive covenants to conform with Indiana Code, 13-11-2-193.5, on both east side properties to restrict use of groundwater and residential or recreational use of the east side properties. Also, the existing land use restriction may need to be modified to benefit from new restrictive covenant requirements pursuant to the Indiana Code. As discussed above, long-term stewardship is required to ensure the long-term protectiveness of the remedy.

Table 9. Issues

Issue	Currently Affects Protectiveness (Yes/No)	Affects Future Protectiveness (Yes/No)
Some contaminants exceed the MCLs and cleanup goals.	No	No
Effective Institutional Controls on East Side Properties are needed.	No	Yes

Both of the East Side Respondents filed for Bankruptcy and ceased to implement the remedial action at the Site. The East Side Respondents stopped the implementation of the remedial action under the UAO at the time they filed for bankruptcy in 2006. The U.S. Department of Justice filed proofs of claim on behalf of U.S. EPA in both bankruptcy cases seeking response costs and future compliance with the UAO. The outcome of U.S. EPA's claims is uncertain and U.S. EPA may have to spend additional response costs at the east side of the Site to implement the remedial action.

IX. Recommendations and Follow-up Actions

The performance standard for the soil vapor extraction system has been achieved. Groundwater monitoring wells have achieved cleanup goals for some contaminants. Other contaminants in the groundwater have not reached the cleanup goals. Therefore, the recommendation resulting from this five year review would be to continue operation and/or maintenance of the air stripper and the groundwater monitoring wells until all performance standards are achieved.

Table 10. Recommendations and Follow-up Actions

Issue	Recommendations Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness? (Yes or No)
Some contaminants exceed the MCLs and cleanup goals.	Continue to collect and analyze ground water samples; conduct operation and maintenance related activities; and, submit reports.	East & West Side Respondents	U.S. EPA & IDEM	Until 5 years after the shut down of interceptor wells and the cleanup goals are maintained.	No, current. No, future.
Evaluate and Implement effective ICs on East Side properties and long-term stewardship to monitor and review ICs.	Develop an IC Plan to further evaluate existing ICs; contact East Side Respondents or current property owners to implement restrictive covenants, and assure long-term stewardship by revising O&M Plan to ensure effective ICs.	U.S. EPA, IDEM & East Side Respondents	U.S. EPA & IDEM	12 months from date of this five-year report. ²	No, current Yes, future

X. Protectiveness Statement

The remedy at the Main Street Well Field Site included operable unit #1 and operable unit # 2. Operable unit #1 consisted of the installation of alternate water supply system, an air stripper, and 2 interceptor wells. Operable unit #1 is operating as intended by the RODs and is considered to be protective of human health and the environment in the short-term. Operable unit #2 consisted primarily of groundwater monitoring of specified wells, the removal and off-Site disposal of a paint layer from contaminated soils on the East Side, the installation of an in-situ soil vapor extraction system, the installation of interceptor wells, and the continued operation and maintenance of operable unit # 1. Operable unit # 2 is operating as intended by

² Additional time beyond that allowed by EPA's IC Strategy is needed to develop the IC Plan due to East Side Respondents' bankruptcy.

the RODs and is considered to be protective of human health and the environment in the short-term. Both operable unit #1 and operable unit #2 are expected to be protective of human health and the environment in the long-term upon attainment of all cleanup standards. In the interim, exposure pathways that could result in unacceptable risks are being controlled by preventing exposure to, or the ingestion of, contaminated groundwater. All threats at the Site have been addressed through the installation and operation of interceptor wells, the air stripper, and the soil vapor extraction system. Fencing is located around the remedial action components to prevent the interference with the remedial action. Site deed restrictions are needed to restrict exposure pathways and threats for future protectiveness. Long term protectiveness requires compliance with land use restrictions that prohibit interference with the hazardous waste cap and soil in the limited industrial land use area and groundwater use restrictions. The land use restrictions required by the ROD have not been implemented on East Side Durakool's property, and the restrictions that were recorded in 1992 on East Side Excel Property may need to be updated to benefit from the newer Indiana Code provisions for environmental restrictive covenants. Additionally, long-term stewardship requires monitoring and evaluating ICs. Current data indicate that a plume has not migrated off-Site. Sampling and analysis of groundwater monitoring wells for the presence of volatile organic compounds will be continued pursuant to the modified groundwater monitoring program. Current groundwater monitoring data indicate that the remedy is functioning as required to achieve groundwater goals. The air stripper and the interceptor wells are functioning as designed to ensure adequate performance of the remedial action.

XI. Next Review

The next five-year review for the Main Street Well Field Superfund Site is required five years from the signature of this review.

BIBLIOGRAPHY

U.S. Environmental Protection Agency, "Record of Decision" for Main Street Well Field Site, Elkhart, Indiana. August 1985.

U.S. Environmental Protection Agency, "Administrative Order". February 1992. Geraghty & Miller Arcadis, Monitoring and Sampling Reports, 1997 to 2006.

EIS Groundwater Monitoring Reports for the Main Street Well Field Site, Elkhart, Indiana. 1997 to March 2002.

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U.S. Environmental Protection Agency, "Phased Remedial Investigation/Feasibility Study, Main Street Well Field, Elkhart, Indiana". April 1985.

CRA, Groundwater Monitoring Data Report. 2005, 2006.

ATTACHMENT 1

SITE LOCATION MAP




**Main Street Well Field
Elkhart County, IN**

IND980794358



Legend

 Main St Well Field Boundary

0 300 600
Feet



RPM: Lolita Hill

Created by Sarah Backhouse
U.S. EPA Region 5 on 10/2/06

ATTACHMENT 2

EAST SIDE PRP

GROUNDWATER MODIFICATION REQUEST



Ms Lolita A. Hill
Remedial Project Manager
U.S. Environmental Protection Agency (SR-6J)
77 West Jackson Blvd.
Chicago, Illinois 60604

Subject:
Groundwater Monitoring Modification Request
East Side Properties
Main Street Well Field, Elkhart, Indiana

Dear Ms. Hill:

I am writing on behalf of Dura Automotive Systems of Indiana, Inc. ("DAS"), f/k/a Excel Corporation and the Dana Corporation (American Electronic Components, Inc. f/k/a Durakool, Inc.) in response to U.S. EPA's review of our prior request for certain changes in the groundwater quality monitoring program for the East Side Properties at the Main Street Well Field Site. We have reviewed your written response to our request and were generally encouraged by your acceptance of a number of the recommended modifications to the monitoring program. However, there are a number of proposed modifications that were not approved by U.S. EPA that we continue to believe are appropriate based on the existing groundwater sampling data for the East Side Properties.

Although we are asking for your further consideration of these other proposed changes to the monitoring plan, in response to your request, we did conduct a groundwater sampling event at the East Side Properties in March 2006. The March 2006 groundwater sampling event was performed in accordance with the low-flow sampling procedures outlined in your letter of January 5, 2006. We are currently awaiting the analytical results for that sampling activity, and will provide you with the results once the data have been received and validated.

Additional supporting information for a number of the items in our original request for changes to the monitoring program that were not approved by U.S. EPA is presented below. Each of the specific issues as it appeared in your January 5th letter is first identified in *italics*, and is then followed by our supporting comments.

ARCADIS G&M, Inc.
35 East Wacker Drive
Suite 1000
Chicago, Illinois 60601
Tel 312 263 6703
Fax 312 263 7897
www.arcadis-us.com

ENVIRONMENTAL

Date:
10 May 2006

Contact:
Jack Kratzmeyer

Phone:
312.263.6703

Email:
jkratzmeyer@arcadis-us.com

Our ref:
CI000496.0003

- (1.) *The requirement to sample and analyze for vinyl chloride (VC) remains in effect.* As we have previously pointed out, VC has never been detected (above the laboratory reporting limit of 1 ug/L) in any of the East Side wells at any time during the greater than 10 years of groundwater monitoring that has been performed at the Site. During that time, over 30 individual groundwater sampling events have been conducted. We do not believe that detection of VC in one of the monitoring wells (MW-20) located on the West Side Properties, as noted in your response, has any direct bearing on the potential for VC to be present at the East Side Properties. Given the preponderance of the actual sampling data (over 30 individual sampling events) for VC without a single detection, we believe our previous request to drop the requirement to sample and analyze for VC is supported by the existing data. Although VC can be formed by the biological degradation of TCE, there is no evidence that the groundwater conditions that are favorable for this transformation to occur (anaerobic environment with strongly reducing oxidation-reduction potential) exist at the East Side Properties. Measurements of the oxidation-reduction potential (ORP) of groundwater in East Side wells during the recently completed March 2006 sampling event ranged from +135 milliVolts (mV) to +157 mV, indicating that, in fact, the groundwater environment at the East Side Properties is oxidizing rather than reducing.
- (2.) *The requirement to sample MW-10 remains in effect.* Our request to drop MW-10 from the groundwater monitoring program was based on the fact that TCE has only been detected in MW-10 on one occasion, and not since October 1995. Also, as discussed in item (1) above, VC has never been detected in any of the East Side wells, including MW-10. Although cis-1,2 DCE has been detected in MW-10, it has never been detected at concentrations above its Maximum Contaminant Level (MCL) of 70 ug/L, and has not been identified as a target compound at the Site. In November 2004, the concentration of cis-1,2 DCE detected in MW-11 was 11 ug/L, while the concentration of TCE detected in MW-10 during that same sampling event was < 1.0 ug/L. The presence of low levels of cis-1,2-DCE in groundwater at MW-10 in the absence of elevated concentrations of parent compounds such as TCE, does not suggest the potential for an expanding groundwater plume.
- (3.) *The requirement to sample MW-27 remains in effect.* We acknowledge that the statement in the 2004 Annual Monitoring Report that the concentration of TCE in MW-27 had been less than the laboratory detection limit during the last three consecutive sampling events was incorrect. In fact, the concentration of TCE MW-27 during the last three consecutive sampling events was less than the Maximum Contaminant Level for TCE of 5ug/L, which had also been the laboratory detection limit for the groundwater analysis up until the September

2003 sampling event, when the laboratory reporting limit was lowered to 1 ug/L. The TCE results for the September 2003 and December 2003 sampling event were inadvertently entered incorrectly as "ND" in Table 1 based on the prior laboratory detection limit of 5ug/L.

- (4.) *After December 2003, sampling was no longer performed on a quarterly basis.* We would like to provide clarification of our understanding regarding U.S. EPA's agreement to a reduced sampling frequency at the East Side Properties following the December 2003 quarterly sampling event. The results of the December 2003 quarterly sampling event were submitted to U.S. EPA in the 2003 Annual Progress Report (2003 Report) dated February 16, 2004. A number of recommendations were made in the 2003 Report regarding changes to the East Side Properties monitoring program (see Section 10.0 of 2003 Annual Progress Report), including a recommendation that future groundwater sampling be conducted on an annual basis. Although U.S. EPA did not provide written review comments on the 2003 Report, the recommendations for changes in the groundwater monitoring program presented in the report were verbally discussed during a telephone conversation between Lolita Hill of U.S. EPA and Jack Kratzmeyer of ARCADIS. Based on these discussions, U.S. EPA agreed that a single groundwater sampling event should be performed in 2004, and that based on the results of that sampling event, the agency would evaluate the recommended changes in the monitoring program that were presented in the 2003 Report. Consequently, groundwater sampling was performed at the East Side Properties in November 2004. The results of the November 2004 sampling event were submitted to U.S. EPA in the 2004 Annual Progress Report (2004 Report) dated June 16, 2005. Reference to the Agency's agreement to a single sampling event in 2004 is made in the introduction section of the 2004 Report. The results of the November 2004 sampling event were consistent with the historical sampling results (including the December 2003 results) that had formed the basis for the changes in the East Side monitoring program that were originally recommended in the 2003 Report. Therefore, similar recommendations for changes in the monitoring program were presented in the 2004 report. Following submittal of the 2004 report, legal representatives of the East Side and West Side Respondents engaged the U.S. EPA in discussions regarding the groundwater monitoring programs at their respective properties. Additional groundwater sampling was not performed at the East Side Properties in 2005 pending the outcome of those discussions.

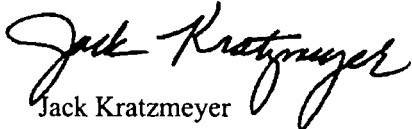
ARCADIS

Lolita A. Hill
May 10, 2006

We hope that this information further clarifies the basis for our recommendations for changes in the groundwater monitoring program at the East Side Properties. We would greatly appreciate your review and consideration of this supporting information for additional modifications to the monitoring program presented in this letter. If you should have any questions regarding this information, please do not hesitate to contact me.

Sincerely,

ARCADIS G&M, Inc.


Jack Kratzmeyer
Principal Engineer

Copies:

W.C. Blanton, Blackwell Sanders Peper Martin LLP

ATTACHMENT 3

U.S. EPA RESPONSE TO

EAST SIDE PRP

GROUNDWATER MODIFICATION REQUEST

SR-6J

January 5, 2006

Jack Kratzmeyer
ARCADIS G&M Inc.
35 East Wacker Drive
Suite 1000
Chicago, Illinois 60601

Re: Main Street Well Field, Elkhart, Indiana
Groundwater Monitoring Modification
Request

Dear Mr. Kratzmeyer:

This letter responds to the groundwater monitoring modification request presented in the 2004 Annual Progress Report dated June 15, 2005, submitted by Arcadis Geraghty & Miller, on behalf of the East Side potentially responsible parties.

After review of the East Side's groundwater monitoring analytical data and sampling practices, U.S. EPA has determined that it is appropriate to make the following modifications to the East Side monitoring program:

- a. The requirement to sample and analyze for TAL metals has been eliminated.
- b. The requirement to sample and analyze for PCE has been eliminated for all East Side monitoring wells.
- c. The requirement to sample and analyze the common, interceptor, and production wells for PCE has not been eliminated, nor has the requirement that PCE cleanup goals be met and maintained for 5 years.
- d. The requirement to sample and analyze for vinyl chloride remains in effect. Vinyl chloride has been detected in at least one of the West Side wells (MW-20) at levels above it's MCL (as well as the cleanup objective) as recently as May 2005. It is clear, therefore, that conditions adequate for the formation of vinyl chloride are present in the aquifer at this site. Although vinyl chloride has not been detected in the East Side wells during the long-term monitoring effort, compounds that can bio-degrade into vinyl chloride have been detected and it is possible vinyl chloride will appear at the East Side

in the future. It is worth noting that the method detection limit for vinyl chloride is 1 ug/L, which is above the cleanup level of 0.3 ug/L (although probably within the practical quantitation limit) and the use of bailers for sampling may have an especially dramatic impact on volatilizing vinyl chloride out of the samples. If vinyl chloride does appear, its high toxicity makes it a substantial threat to human health. Therefore, U.S. EPA requires continued sampling and analysis for vinyl chloride.

e. The requirement to sample well GMW-2 has been eliminated so long as flow directions remain stable. Water levels must continue to be measured in this well.

f. The requirement to sample well GMMW-10 (MW-10) remains in effect. Although for the most part, this well has been "clean" historically with regard to PCE, TCE, and vinyl chloride, contamination (1,2-dichlorethene) has routinely been detected in this well. Continued sampling in this well is needed to verify that the contaminant plume isn't expanding or migrating to the south toward the river in the future.

g. The requirement to sample well MW-27 remains in effect. This well has frequently shown TCE concentrations above its MCL, including a detection of 7.1 ug/L of TCE in December 2002, less than 3 years ago. Arcadis Geraghty & Miller's statement in the 2004 Annual Monitoring Report that "The concentration of TCE in MW-27 during the last three consecutive sampling events in this well has been below the detection limit..." is factually incorrect. TCE was detected in the sample from well MW-27 during the September and December 2003 sampling events (which constitutes 2 of the last 3 sampling events referred to in the 2004 report) at about 3 ug/L, which is above the cleanup level. Please note that this well was not sampled in November 2004, so we have no idea of "recent" conditions. This well is also located beneath one of the identified "hot spots" on the site. Continued sampling in this well is needed to determine when cleanup goals are met and to verify that the plume, which continues to contain TCE above the cleanup level, isn't expanding or migrating in new directions in the future.

h. The requirement to sample "common well" MW-25 is eliminated.

i. The requirement to sample "common wells" MW-24 and MW-26R remains in effect. Both of these wells show detectable levels of VOCs and well MW-24 has not achieved cleanup levels for PCE as of May 2005. Water quality from wells MW-24 and MW-26R are necessary to evaluate the ongoing effectiveness of the interceptor wells and the threat to the river.

j. The East Side wells have been sampled on a (more or less) quarterly basis for several years, as is required in the UAO. After December 2003, sampling was no longer performed on a quarterly basis. U.S. EPA has no record of agreeing to this change. The August 11, 2005 e-mail from Bob Kay to Jack Kratzmeyer requested that Arcadis Geraghty & Miller provide any information they had that U.S. EPA had agreed to such a change has received no response. The East Side monitoring program,

therefore, has been out of compliance with the UAO for nearly two years. Having noted these facts, the request to sample the East Side wells on an annual basis in the future is approved. This approval does not imply that U.S. EPA forgoes the imposition of penalties on the East Side group for being out of compliance with the UAO in the past.

U.S. EPA insists that the groundwater monitoring program at the site resume immediately. The next sampling event should occur within the next 60 days of the date of this letter. After this sampling event, sampling is to take place in November in order to be consistent with historical sampling events. U.S. EPA requires the use of bailers to be discontinued for all future sampling events. Future groundwater samples should be collected using a submersible pump and micro-purge techniques, including collection of field parameters (turbidity, temperature, dissolved oxygen, oxidation-reduction potential, specific conductance, and pH) for more accurate data. Arcadis shall inform U.S. EPA and IDEM a minimum of three weeks in advance of the date of the sampling event so that oversight, if deemed necessary, may be arranged.

Should you have any questions regarding this response, please feel free to contact me at (312) 353-1621 or Craig Melodia, of the Office of Regional Counsel, at (312) 353-8870.

Sincerely,

Lolita A. Hill
Remedial Project Manager

cc: W.C. Blanton, Esq.
Blackwell Sanders Pepper Martin

Jerome Maynard, Esq.
Dykema Gossett Rooks Pitts

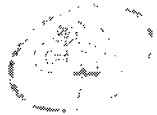
Prabhakar Kasarabada
Indiana Department of Environmental Management

bcc: Craig Melodia, ORC
Bob Kay

ATTACHMENT 4

WEST SIDE PRP

GROUNDWATER MODIFICATION REQUEST



**CONESTOGA-ROVERS
& ASSOCIATES**

1811 Executive Drive, Suite O, Indianapolis, IN 46241
Telephone: 317-381-0677 Facsimile: 317-381-0670
www.CRA.com

September 12, 2006

Reference No. 037900

Ms. Lolita Hill
Project Manager
U.S. Environmental Protection Agency
77 West Jackson Boulevard, SR-6J
Chicago, Illinois 60604-3507

Dear Ms. Hill:

Re: Groundwater Monitoring Data Summary and Evaluation
and Monitoring Program Optimization Recommendations
Main Street Well Field Site
Elkhart, Indiana

INTRODUCTION

On behalf of the West Side Respondent Group, Conestoga-Rovers & Associates (CRA) has prepared this groundwater monitoring data summary and evaluation for the Main Street Well Field (MSWF) Site located in Elkhart, Indiana (Site). The Site has been monitored since November 1995 in accordance with a U.S. Environmental Protection Agency (U.S. EPA) Unilateral Administrative Order (UAO) and Scope of Work (SOW) dated February 1992¹. The purpose of this letter is to summarize the current data, evaluate concentration trends and provide recommendations for the monitoring program based on the data evaluation.

CURRENT MONITORING PROGRAM

The West Side MSWF monitoring well network consists of two groups of monitoring wells, the Common Program wells and the West Program wells. The Common Program wells include three monitoring wells (MW-24, MW-25, and MW-26R). The West Program wells include seven monitoring wells (MW-14, MW-15R, MW-16R, MW-17, MW-18, MW-20, and MW-21). Groundwater monitoring commenced at the site in 1995.

The three Common Program monitoring wells are sampled on a quarterly basis for Target Compound List (TCL) volatile organic compounds (VOCs) and annually (fourth quarter) for Target Analyte List (TAL) metals and cyanide. The seven West Program wells are sampled semiannually (second and fourth quarters) for TCL VOCs and annually (fourth quarter) for TAL metals and cyanide.

¹ Note that sampling events between 2003 and 2004 were not sampled as previously discussed between the West Side Respondent Group and the agencies.



APPROACH

In general, the following elements of the groundwater monitoring program were evaluated:

- individual analytes;
- monitoring frequency; and
- monitoring locations.

In order to conduct the monitoring program evaluation and optimization, groundwater analytical data generated since 1995 were entered into a comprehensive groundwater analytical database. Analytes that were not detected during any of the groundwater monitoring events were identified and removed from the list of compounds of potential concern. Table 1 presents a summary of the analytes detected at least once during groundwater monitoring events conducted during the period of November 1995 to June 2006.

Once detected analytes were identified, comparison of the concentrations of these analytes relative to applicable standards, in this case the Federal Maximum Contaminant Levels (MCLs) or Indiana's Residential Default Closure Levels (RDCL) could be performed. For analytes with a sufficient number of detections, consistent with Indiana Department of Environmental Management's (IDEM's) Risk Integrated System of Closure (RISC) guidance, temporal concentration trends were evaluated statistically using the Mann-Kendall trend test to determine the need and frequency of monitoring for individual analytes.

In addition to the concentrations and concentration trends of the individual analytes, spatial concentration trends were evaluated to determine the necessity of retaining individual well locations in the monitoring program both for groundwater chemistry and for hydraulic control.

DATA EVALUATION AND RECOMMENDATIONS

Evaluation of Analytes

Aluminum, beryllium, cadmium, cobalt, lead, mercury, and silver, as well as a number of VOCs, which have not been detected during the 10-years of groundwater monitoring at the Site, are excluded from Table 1. As these analytes have never been detected, continuing to monitor for these analytes does not contribute any significant information to the database and it is recommended that these analytes be removed from the analyte list for future monitoring events.

The analytical data presented in Table 1 have been compared to the MCLs and the IDEM's RISC RDCLs. Analyte detections above these criteria are highlighted in Table 1. The Mann-Kendall trend analysis was conducted for each parameter at each monitoring well for which sufficient



number of detected concentrations occurred during the monitoring period. Sufficiency was defined as at least four monitoring events for an individual parameter from an individual well where at least 50 percent of the data consisted of detected concentrations. The results of the Mann-Kendall evaluation of all detected analytes are presented in Table 2. Table 3 presents an analyte-by-analyte summary of the identified statistically significant trends and instances where there are 100 percent non-detects for specific analytes at specific monitoring wells.

Based on concentration data listed in Table 1 and the Mann-Kendall analysis results summarized in Tables 2 and 3, the analytes that were never detected at concentrations above the MCLs or RDCLs, and the analytes that do not exhibit a statistical increasing trend were identified on an analyte-by-analyte basis, as presented on Table 4. The analytes meeting these criteria included antimony, arsenic, chromium, copper, nickel, selenium, sodium, vanadium, zinc, 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), acetone, and cyanide (total). As these analytes no longer contribute to the understanding of the contaminant distribution or concentration trends, it is recommended that these analytes be removed from the analyte list for future monitoring events.

For the remaining analytes that exhibit an increasing concentration trend or were ever detected above the objectives, an evaluation on an analyte-by-analyte and well-by-well basis was completed as summarized below.

- **Barium:** Barium is a naturally occurring element in groundwater and has been detected in the groundwater samples collected from all of the monitoring wells during every monitoring event. Increasing trends were identified at wells MW-14 and MW-21. However, the detected barium concentrations have never been above the MCLs or RDCLs and the detected barium concentrations are a fraction (less than one-tenth) the MCL and RDCL of 2 mg/L. The maximum barium concentration was observed as 0.17 mg/L at MW-14 on November 2001. Therefore, it is recommended that barium be removed from the analyte list.
- **Calcium:** Calcium is a naturally occurring element in groundwater and an essential nutrient. An increasing calcium concentration trend was identified at MW-15R with the maximum concentration of 71.7 mg/L. However, calcium is not a health-related concern and does not have an established MCL or RDCL. Therefore, it is recommended that calcium be removed from the analyte list.
- **Iron:** Iron is a naturally occurring element in groundwater and an essential nutrient. Increasing iron concentration trends were identified at MW-15R, MW-17, and MW-20. However, iron is not a health-related concern and does not have an established MCL or RDCL. Therefore, it is recommended that iron be removed from the analyte list.
- **Magnesium:** Magnesium is a naturally occurring element in groundwater and an essential nutrient. An increasing magnesium concentration trend was identified at MW-16R. However, magnesium is not a health-related concern and does not have an established



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MCL or RDCL. Therefore, it is recommended that magnesium be removed from the analyte list.

- **Manganese:** Manganese is a naturally occurring element in groundwater. An increasing trend was only identified at MW-15R. However, manganese is not a health-related concern and does not have an established MCL or RDCL. Therefore, it is recommended that manganese be removed from the analyte list.
- **Potassium:** Potassium is a naturally occurring element in groundwater and an essential nutrient. Increasing trends were identified at MW-14, MW-17, and MW-24. However, potassium is not a health-related concern and does not have an established MCL or RDCL. Therefore, it is recommended that potassium be removed from the analyte list.
- **Thallium:** Concentrations of thallium above the drinking water MCLs were observed at nine monitoring wells between 1997 and 2000. No statistically significant trend was identified for thallium at any of these locations. The most recent detects above MCL were observed on November 21, 2000 at three well locations. There have been three monitoring events since November 2000 and thallium has not been detected during these three events. Therefore, it is recommended that thallium be removed from the analyte list. ✓
- **1,2-Dichloroethene (1,2-DCE):** 1,2-DCE has not been detected in groundwater samples collected from MW-14, MW-15R, and MW-16R. 1,2-DCE was detected at concentrations above the MCL and RDCL on only two occasions at MW-24, in November 1995 and February 1996, respectively. The 1,2-DCE concentrations versus time at different well locations are presented on Figure 1. The trend graphs were also plotted on Figure 1 for wells MW-20, MW-24, MW-25, and MW-26R. There has been no exceedance of 1,2-DCE since February 1996 at all monitoring locations. Significant decreasing trends were also identified at three wells MW-24, MW-25, and MW-26R. However, it is recommended that 1,2-DCE remain on the analyte list for the purpose of monitoring for natural attenuation of chlorinated VOCs. ✓
- **Tetrachloroethene (PCE):** PCE has never been detected in the groundwater samples collected from MW-15R, MW-16R, MW-17, MW-20, MW-21, and MW-26R. No significant statistical trend was identified at any well locations. The PCE concentrations versus time at MW-14 are plotted on Figure 2. Detects above MCL were only observed at MW-14 before 1999. Since that time, PCE has not been detected at concentrations above the MCL or RDCL (over 7 years). However, the PCE concentration observed in recent samples collected from one location, MW-25, approach the MCL and RDCL of 5 µg/L. Therefore, it is recommended that PCE be remain on the analyte list. ✓
- **Trichloroethene (TCE):** TCE has never been detected in the groundwater samples collected from MW-15R, MW-16R, MW-17, and MW-26R. Statistical decreasing concentration trends were observed at MW-18 and MW-21. However, TCE concentrations in these two wells are still above the MCL and RDCL of 5 µg/L, as shown on Figure 3. TCE should remain on the analyte list for future monitoring events. ✓



- **Vinyl chloride:** Vinyl chloride was only detected in MW-20 at concentrations above the MCL and RDCL of 2 µg/L, as shown in Figure 4. No significant statistical trend was identified for vinyl chloride. Prior to 2002, the detection limit for vinyl chloride was 10 µg/L, which is above the MCL of 2 µg/L. Vinyl chloride should remain on the analyte list for future monitoring events.

Monitoring Frequency

The analytes proposed for future monitoring events, as summarized in the previous section, include PCE TCE, 1,2-DCE, and vinyl chloride. Based on the Mann-Kendall trend test, all of these analytes exhibit either no significant trend (i.e., stable concentrations) or a decreasing trend during over 10 years of monitoring. As a result of the stable or decreasing concentration trends observed to date, an annual monitoring frequency is sufficient to identify any potential significant deviations in concentration for the analytes of concern.

Monitoring Locations

VOCs have never been detected in the groundwater samples collected from monitoring wells MW-15R and MW-16R (as shown in Table 3). Monitoring wells MW-15R and MW-16R are located hydraulically upgradient of the interceptor wells and hydraulically cross-gradient of the monitoring wells with significant VOC detections (MW-18 and MW-21). Monitoring well MW-14 is sufficient for monitoring groundwater quality upgradient of the interceptor wells and MW-15R and MW-16R provide redundant capability in that regard. Therefore, it is recommended that MW-15R and MW-16R be eliminated from future chemical groundwater monitoring.

There are three monitoring wells located in close proximity to each other to the south of the Main Street Well Field. 1,2-DCE was the only VOC ever detected at a concentration above the MCLs or RDCLs in groundwater samples collected from these three wells. 1,2-DCE was detected at concentrations above the MCL in the two groundwater samples collected from MW-24 in November 1995 and February 1996. However, since that time the 1,2-DCE concentration has been below the MCL and RDCL and has exhibited a decreasing concentration trend. 1,2-DCE has been detected in groundwater samples collected from MW-25 and MW-26R but it has never been detected above the MCL or RDCL and has exhibited a significant decreasing trend. However, the PCE concentration observed in recent groundwater samples collected from MW-25 approach 5 µg/L, ranging from 4.4 to 4.7 µg/L during the last three monitoring events. Based on the analytical data and spatial evaluation, it is recommended that MW-24 and MW-26R be eliminated from future chemical monitoring events but chemical monitoring at MW-25 continue.

CRA conducted an evaluation of the hydraulic monitoring program. Currently, there are several monitoring well pairs located in close proximity to each other that provide redundant



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hydraulic monitoring. These pairs include MW-15R/MW-16R, MW-17/MW-18, MW-3/MW-19, MW-20/MW-21, and MW-24/MW-25. However, no change in the hydraulic monitoring program is proposed at this time.

SUMMARY AND RECOMMENDATIONS

The groundwater analytical database of the West Side monitoring program was evaluated to determine the historical concentration trends and to provide recommendations for modification of the scope the monitoring program for future groundwater monitoring events. This evaluation included an analyte-by-analyte review, a review of groundwater monitoring locations, and a review of groundwater monitoring frequency in order to optimize the West Side monitoring program.

Based on the results of the evaluation summarized herein, the following recommendations are made for optimizing the West Side monitoring program:

- Aluminum, beryllium, cadmium, cobalt, lead, mercury, and silver have not been detected during over 10 years of monitoring, do not contribute any significant information to the database, and should be removed from the monitoring program.
- The remaining inorganic analytes, except thallium, should be removed from the monitoring program due to lack of detections above the MCLs or RDCLs or because these analytes occur naturally in groundwater and do not provide a health-related concern.
- Thallium should be removed from the monitoring program due to lack of detections during the three most recent consecutive monitoring events.
- PCE, TCE, 1,2-DCE, and vinyl chloride should remain on the analyte list for future monitoring events to continue to monitor concentration trends and evaluation of natural attenuation.
- The frequency of future groundwater monitoring events should be reduced to annually because the concentrations of the proposed analytes have exhibited either a stable or decreasing concentration trend over a long time period.
- Monitoring wells MW-15R, MW-16R, MW-25 and MW-26R do not contribute significantly to the analytical database and should be dropped from the chemical monitoring program.
- All monitoring wells should be retained for hydraulic monitoring purposes. No change in the hydraulic monitoring program is proposed at this time.

The proposed West Side groundwater monitoring program is summarized in Table 5.



**CONESTOGA-ROVERS
& ASSOCIATES**

September 12, 2006

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Reference No. 037900

We appreciate your consideration of these recommendations to modify the current groundwater monitoring program for the Main Street Well Field Site. Please contact me if you have any questions or comments concerning this matter.

Yours truly,

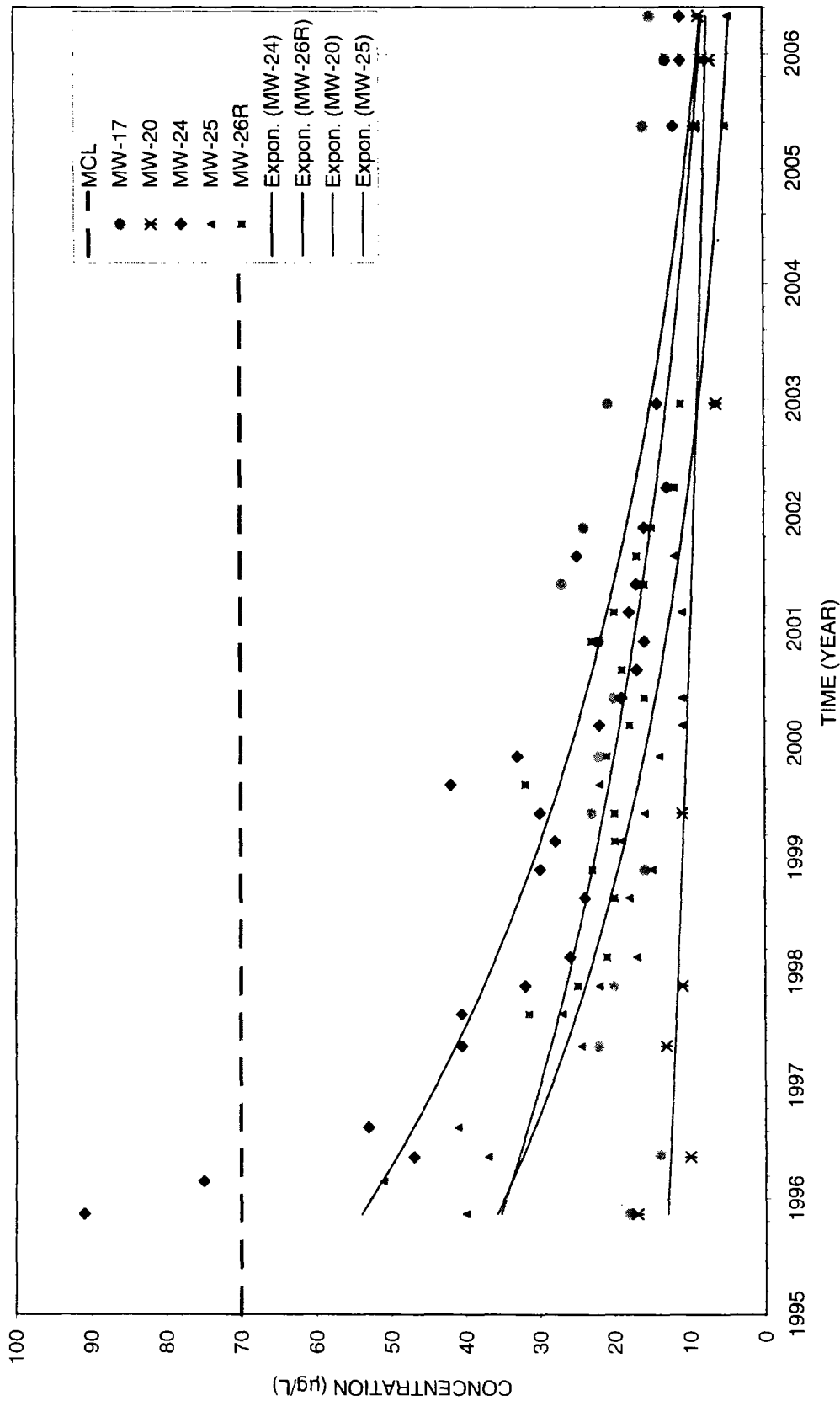
CONESTOGA-ROVERS & ASSOCIATES

Steven J. Warner

SJW/sl/02

Encl.

c.c.: P. Kasarabada, IDEM
R. Bryant, NIBCO
J. Maynard, Dykema Gossett



Note: No trend graph was identified for MW-17.



figure 1
1,2 - DICHLOROETHENE CONCENTRATION VS. TIME
MAIN STREET WELL FIELD SITE
Elkhart, Indiana

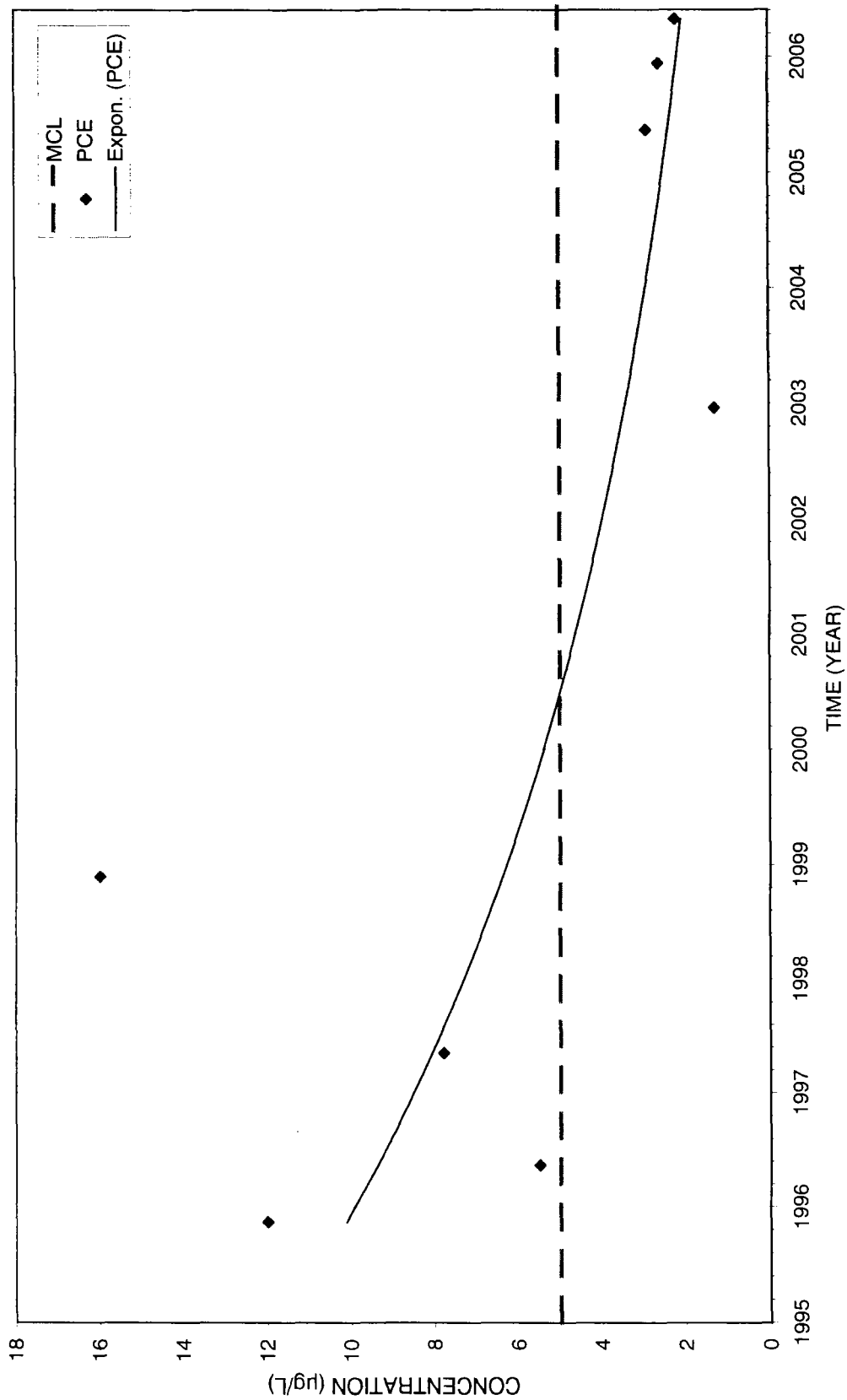


figure 2
PCE AT MW-14
MAIN STREET WELL FIELD SITE
Elkhart, Indiana



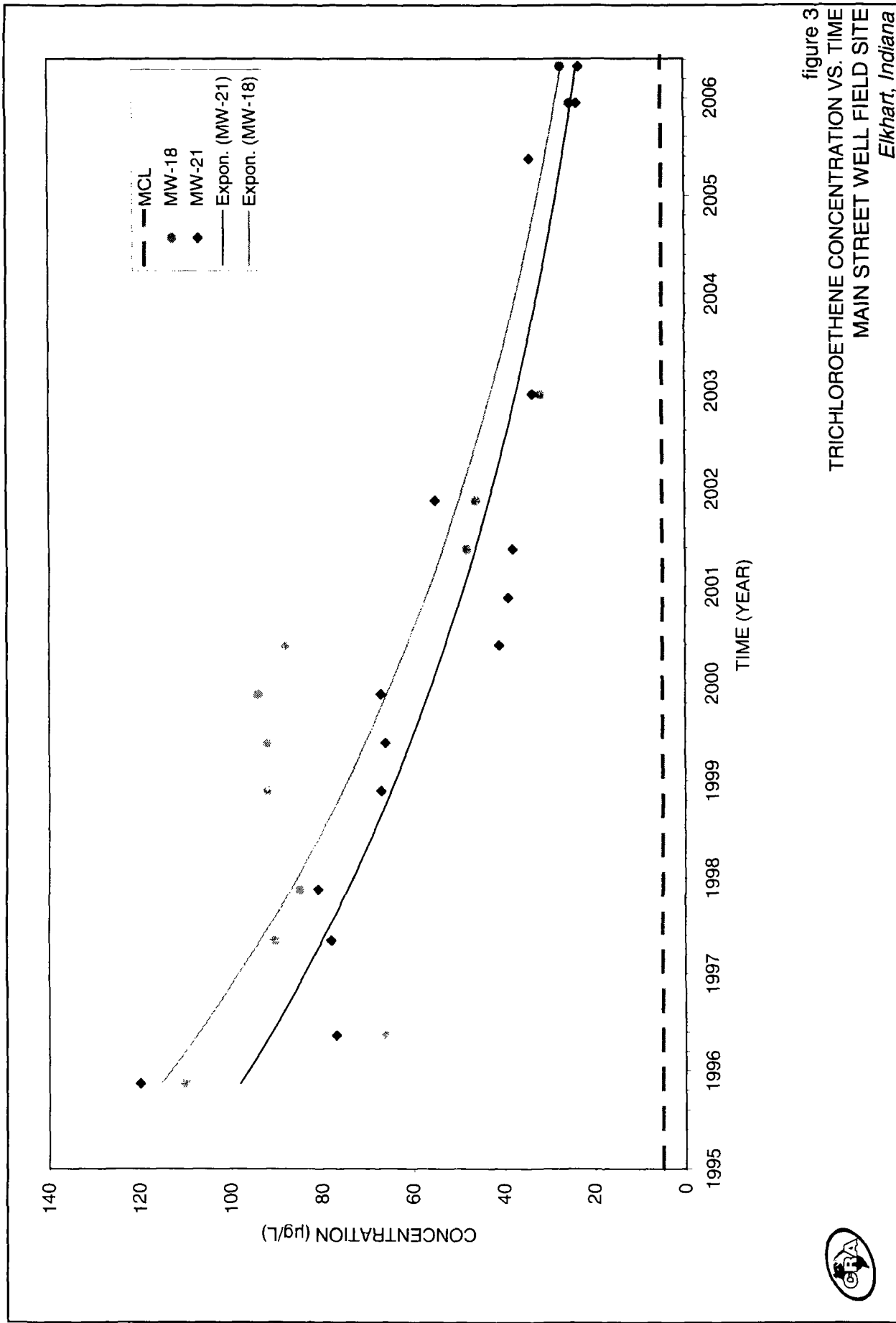


figure 3



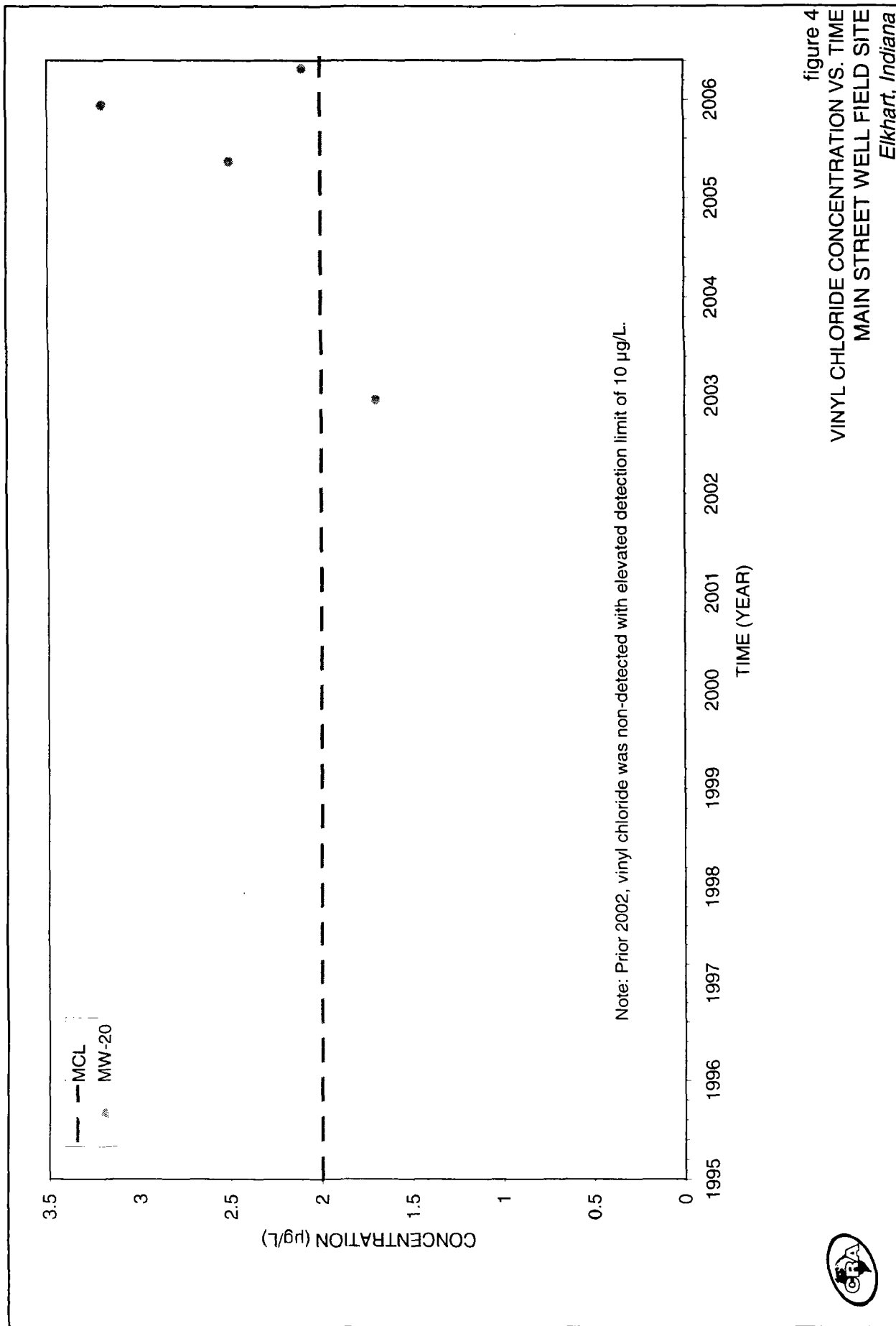


figure 4
VINYL CHLORIDE CONCENTRATION VS. TIME
MAIN STREET WELL FIELD SITE
Elkhart, Indiana



ATTACHMENT 5

U.S. EPA RESPONSE TO

WEST SIDE PRP

GROUNDWATER MODIFICATION REQUEST



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SR-6J

November 13, 2006

Steven J. Wanner
Conestoga-Rovers & Associates
1811 Executive Drive, Suite O
Indianapolis, IN 46241

Re: Main Street Well Field Site
Elkhart, Indiana

Dear Mr. Wanner:

This letter is in response to your requests outlined in your letter regarding the "*Groundwater Monitoring Data Summary and Evaluation and Monitoring Program Optimization Recommendations*" for the Main Street Well Field Site, dated September 12, 2006, submitted by Conestoga-Rovers & Associates on behalf of the West Side potentially responsible parties.

After review of the Main Street Well Field Site West Side's groundwater monitoring analytical data and sampling practices, U.S. EPA has determined that it is appropriate to allow modifications to the West Side groundwater monitoring program as follows:

1. U.S. EPA will eliminate the requirement to analyze samples for cyanide.
2. You made a recommendation to stop analyzing samples for metals. U.S. EPA will allow you to discontinue analyzing samples for metals provided that dissolved oxygen and oxidation-reduction potential are added to the list of field parameters for subsequent sampling events as a substitute for the information lost by no longer analyzing for iron and manganese. These field parameters will help establish whether or not geochemical conditions remain favorable for biodegradation in the absence of the analyses of iron and manganese.

With respect to thallium, U.S. EPA insists that you continue to monitor for this analyte. A lack of detection during the three most recent sampling events is not

a strong justification in comparison to the fairly frequent presence of thallium detections above the MCL.

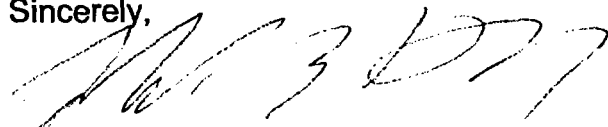
3. You may eliminate TCA, DCA, and acetone from the list of analytes.
4. You have recommended that U.S. EPA decrease the sampling frequency to an annual basis. Given the long period of record of these analytes, U.S. EPA will allow you to decrease the sampling frequency to annually provided that you do the following:

conduct a statistical analysis to determine if there are quarterly variations in water quality. If seasonal variations are present, U.S. EPA requires that sampling occur during the quarter when the highest concentrations can be expected, or at the very least that sampling not occur when the lowest concentrations are expected. Absent statistical evidence of seasonal variation in water quality, U.S. EPA requires sampling be done in November when the East Side wells are sampled.

5. U.S. EPA agrees that there is no reason for additional monitoring of water quality in wells MW-15R and MW-16R provided flow directions do not change. It is our understanding that these wells will still be monitored for water levels in the future.
6. U.S. EPA agrees with your recommendation to sample MW-25 rather than MW-24. U.S. EPA was recently contacted by an attorney for the owner of the property on which these two wells are located. The attorney informed U.S. EPA that the access agreement for monitoring of these wells has expired and wanted to know whether continued monitoring is required. The attorney indicated the owner is willing to extend the access agreement. For this reason the West Side PRPs should contact Craig Melodia in the Office of Regional Counsel in order to extend the access agreement for monitoring of MW-25.
7. U.S. EPA agrees with your recommendation that 1,2-dichloroethene, tetrachloroethene, trichloroethene, and vinyl chloride should remain on the list of analytes for future monitoring events.
8. U.S. EPA agrees with your recommendation to retain all monitoring wells for hydraulic monitoring purposes.
9. Future groundwater samples should be collected using a submersible pump and micro-purge techniques, including collection of field parameters (turbidity, temperature, dissolved oxygen, oxidation-reduction potential, specific conductance, and pH) for more accurate data. In light of these modifications to the groundwater monitoring program, U.S. EPA requires that you revise the sampling plan to reflect the updated sampling analytes and techniques. Please submit the sampling plan for U.S. EPA review.

Should you have any questions regarding this response, please feel free to contact me at (312) 353-1621 or Craig Melodia at (312) 353-8870.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lolita A. Hill', written over a series of horizontal lines.

Lolita A. Hill
Remedial Project Manager

cc: Jerome Maynard, Esq.
Dykema Gossett Rooks Pitts

Prabhakar Kasarabada
Indiana Department of Environmental Management

Bob Kay
U.S. EPA

Craig Melodia
ORC

ATTACHMENT 6
SITE NEWS ARTICLE

to honor late director

WINONA LAKE — Grace College School of Music will present a spring concert at 7:30 p.m. today at Rodeheaver Auditorium. The program, titled "Stained Glass" Expressions in Sound, will feature the 60-member band under the direction of Martin Becker, playing music written over a period of 200

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The Truth

professor of ministry and director of field education at the Meadville Lombard Theological School in Chicago.

Plymouth: Greater Vision trio to perform

PLYMOUTH — The Stutzman Family will host its seventh annual Gospel Music Celebration with Greater Vi-

Mendoza College of Business.

Sunday at 5 p.m. John Cavadini will speak on baptism and the universal call to holiness.

Monday at 5 p.m. Archbishop Timothy Dolan of Milwaukee will speak on the sacrament of orders — the vocation of priesthood; and Scott Hahn, professor of theology at Franciscan University, will speak at the 8 p.m. lecture on the mystery of marriage un-

, Sister Sara Butler,
an from St. Joseph's
in Dunwoodie, N.Y.,

Friday, March 23, 2007



EPA To Review Main Street Well Field Elkhart, Indiana

U. S. Environmental Protection Agency is conducting a status review of the Main Street Well Field site. EPA policy requires regular reviews, at least every five years, of sites where the cleanup is complete but hazardous waste remains on-site. These reviews are done to ensure the cleanup continues to protect human health and the environment.

The review will include an evaluation of the background information, cleanup requirements, effectiveness of the cleanup, ground-water monitoring data and any anticipated future actions. The remedy included stopping the flow of contamination into the well field and continued ground water monitoring.

The five-year report, which will be available at the information repository listed below, will detail the site's progress.

Further information can be obtained by contacting:

Lolita Hill

EPA Remedial Project Manager

(800) 621-8431, Ext. 3-1621, weekdays 9 a.m. – 4:30 p.m.

hill.lolita@epa.gov

Site-related documents are available for review at:

Elkhart Public Library
300 S. Second St.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SR-6J

January 8, 2007

Prabhakar Kasarabada,
Indiana Department of Environmental Management
Office of Land Quality
Remediation Services Branch
100 North Senate Avenue
MC 66-31 IGCN 1101
Indianapolis, IN 46204-2251

Re: Notification of Five Year Review Start
for Main Street Well Field Site

Dear Mr. Kasarabada:

This letter is to notify you that U.S. EPA has begun the process of the Five Year Review for the Main Street Well Field Site in Elkhart, Indiana. A statutory Five Year Review for the Site will be conducted as required by Section 121 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

The Five Year Review for the Main Street Well Field Site is due on June 29, 2007. We are providing you this notification so that U.S. EPA and the Indiana Department of Environmental Management can begin the necessary coordination activities. A site inspection will be scheduled, and I will contact you regarding this event.

Please feel free to contact me at (312) 353-1621 should you have any questions or concerns related to this five year review.

Sincerely,

A handwritten signature in black ink, appearing to read "Lolita Hill", is written over a horizontal line.

Lolita Hill
Remedial Project Manager

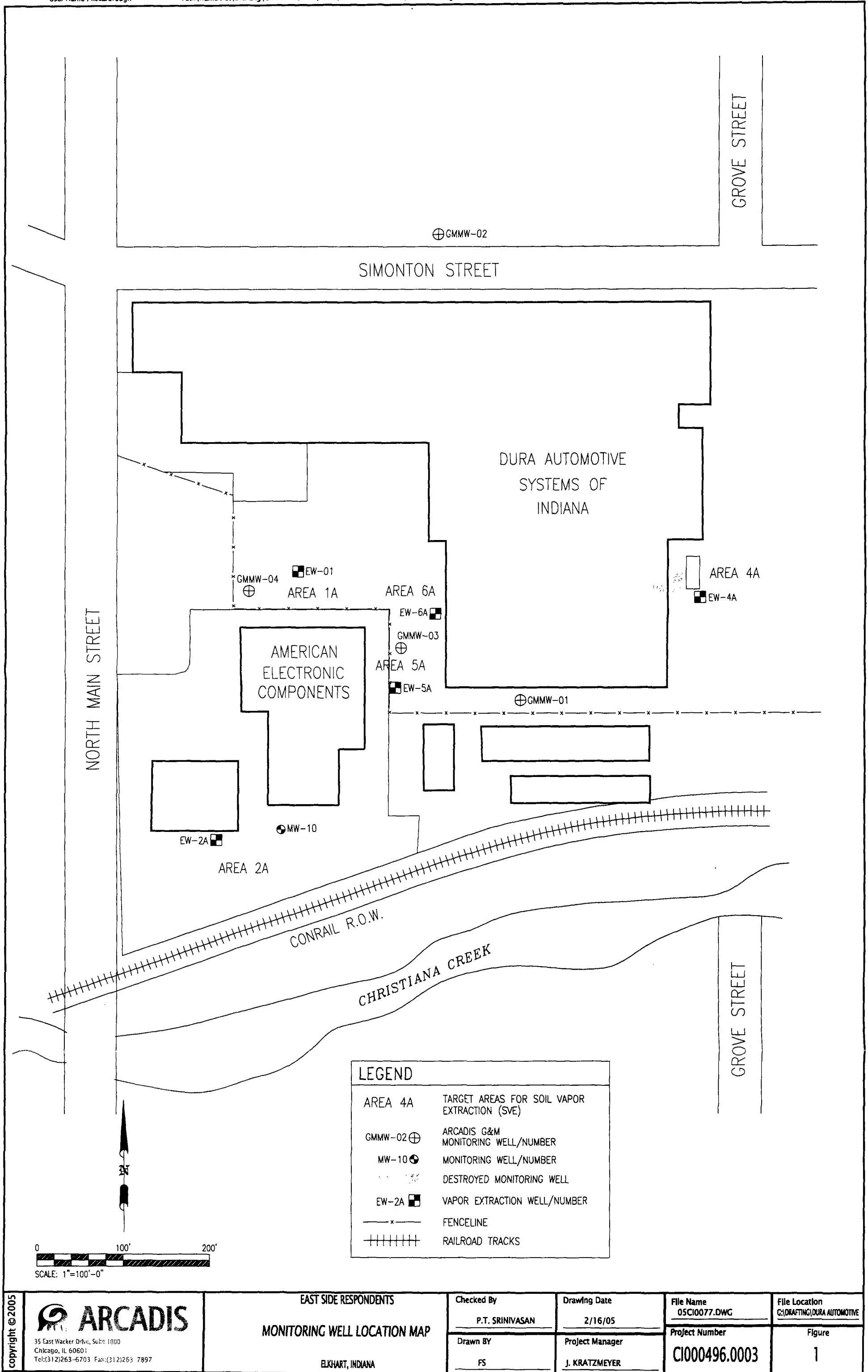
cc: Stephanie Linebaugh
Stuart Hill, OPA
Craig Melodia, ORC

ATTACHMENT 7

EAST SIDE

GROUNDWATER MONITORING

DATA



ARCADIS

Table 1. Summary of Groundwater Monitoring Results for the Target VOCs, East Side Properties, Main Street Well Field, Elkhart, Indiana.

Sample Location	Date	Constituent (µg/L)		
		VC	TCE	PCE
Cleanup Standard		0.3	1.0	0.6
GMMW-01	19-Jun-95	ND	52	ND
GMMW-01	17-Aug-95	ND	54	ND
GMMW-01	17-Oct-95	ND	54	ND
GMMW-01	28-Dec-95	ND	140	ND
GMMW-01	22-Feb-96	ND	76	ND
GMMW-01	22-May-96	ND	72	ND
GMMW-01	27-Aug-96	ND	59	ND
GMMW-01	21-Nov-96	ND	79	ND
GMMW-01	24-Feb-97	ND	64	ND
GMMW-01	23-May-97	ND	75	ND
GMMW-01	29-Aug-97	ND	68	ND
GMMW-01	22-Jan-98	ND	45	ND
GMMW-01	25-Feb-98	ND	65	ND
GMMW-01	03-Jun-98	ND	71	ND
GMMW-01	21-Aug-98	ND	58	ND
GMMW-01	08-Dec-98	ND	55	ND
GMMW-01	09-Mar-99	ND	84	ND
GMMW-01	25-May-99	ND	91	ND
GMMW-01	16-Sep-99	ND	75	ND
GMMW-01	18-Nov-99	ND	75	ND
GMMW-01	23-Mar-00	ND	39	ND
GMMW-01	15-Jun-00	ND	50	ND
GMMW-01	11-Oct-00	ND	36	ND
GMMW-01	28-Dec-00	ND	50	ND
GMMW-01	07-Mar-01	ND	68	ND
GMMW-01	02-Jul-01	ND	63	ND
GMMW-01	26-Sep-01	ND	51	ND
GMMW-01	07-Dec-01	ND	56	ND
GMMW-01	14-Mar-02	ND	41	ND
GMMW-01	27-Jun-02	ND	39	ND
GMMW-01	18-Dec-02	ND	30	ND
GMMW-01	11-Apr-03	ND	20	ND
GMMW-01	08-Sep-03	NS	NS	NS
GMMW-01	08-Dec-03	ND	50	ND
GMMW-01	19-Nov-04	ND	21	ND
GMMW-01	28-Mar-06	ND	87	ND
GMMW-01DUP	28-Mar-06	ND	88	ND

Sample Location	Date	Constituent (µg/L)		
		VC	TCE	PCE
Cleanup Standard		0.3	1.0	0.6
GMMW-02	19-Jun-95	ND	ND	ND
GMMW-02	17-Aug-95	ND	ND	ND
GMMW-02	17-Oct-95	ND	ND	ND
GMMW-02	28-Dec-95	ND	ND	ND
GMMW-02DUP	28-Dec-95	ND	ND	ND
GMMW-02	22-Feb-96	ND	ND	11
GMMW-02	22-May-96	ND	ND	ND
GMMW-02	21-Nov-96	ND	ND	ND
GMMW-02	24-Feb-97	ND	ND	ND
GMMW-02	23-May-97	ND	ND	ND
GMMW-02DUP	23-May-97	ND	ND	ND
GMMW-02	29-Aug-97	ND	ND	ND
GMMW-02	22-Jan-98	ND	ND	ND
GMMW-02	25-Feb-98	ND	ND	ND
GMMW-02	03-Jun-98	ND	ND	ND
GMMW-02	21-Aug-98	ND	ND	ND
GMMW-02	08-Dec-98	ND	ND	ND
GMMW-02	09-Mar-99	ND	ND	ND
GMMW-02	25-May-99	ND	ND	ND
GMMW-02	16-Sep-99	ND	ND	ND
GMMW-02	18-Nov-99	ND	ND	ND
GMMW-02	23-Mar-00	ND	ND	ND
GMMW-02	15-Jun-00	ND	ND	ND
GMMW-02	11-Oct-00	ND	ND	ND
GMMW-02	28-Dec-00	ND	ND	ND
GMMW-02	07-Mar-01	ND	ND	ND
GMMW-02	02-Jul-01	ND	ND	ND
GMMW-02	26-Sep-01	ND	ND	ND
GMMW-02	07-Dec-01	ND	ND	ND
GMMW-02	14-Mar-02	ND	ND	ND
GMMW-02	27-Jun-02	ND	ND	ND
GMMW-02	18-Dec-02	ND	ND	ND
GMMW-02	11-Apr-03	ND	ND	ND
GMMW-02	08-Sep-03	NS	NS	NS
GMMW-02	08-Dec-03	ND	ND	ND
GMMW-02	19-Nov-04	ND	ND	ND
GMMW-02	28-Mar-06	NS	NS	NS

ARCADIS

Table 1. Summary of Groundwater Monitoring Results for the Target VOCs, East Side Properties, Main Street Well Field, Elkhart, Indiana.

Sample Location	Date	Constituent (µg/L)		
		VC	TCE	PCE
Cleanup Standard		0.3	1.0	0.6
GMMW-03	19-Jun-95	ND	42	ND
GMMW-03	17-Aug-95	ND	76	ND
GMMW-03	17-Oct-95	ND	43	ND
GMMW-03	28-Dec-95	ND	800	ND
GMMW-03	22-Feb-96	ND	160	ND
GMMW-03	22-May-96	ND	97	ND
GMMW-03	21-Nov-96	ND	96	ND
GMMW-03	24-Feb-97	ND	220	ND
GMMW-03DUP	24-Feb-97	ND	240	ND
GMMW-03	23-May-97	ND	100	ND
GMMW-03	29-Aug-97	ND	57	ND
GMMW-03DUP	29-Aug-97	ND	71	ND
GMMW-03	22-Jan-98	ND	200	ND
GMMW-03DUP	22-Jan-98	ND	200	ND
GMMW-03	25-Feb-98	ND	140	ND
GMMW-03	03-Jun-98	ND	87	ND
GMMW-03DUP	03-Jun-98	ND	86	ND
GMMW-03	21-Aug-98	ND	53	ND
GMMW-03DUP	21-Aug-98	ND	38	ND
GMMW-03	08-Dec-98	ND	39	ND
GMMW-03DUP	08-Dec-98	ND	39	ND
GMMW-03	09-Mar-99	ND	280	ND
GMMW-03DUP	09-Mar-99	ND	300	ND
GMMW-03	25-May-99	ND	160	ND
GMMW-03DUP	25-May-99	ND	140	ND
GMMW-03	16-Sep-99	ND	160	ND
GMMW-03 DUP	16-Sep-99	ND	130	ND
GMMW-03	18-Nov-99	ND	98	ND
GMMW-03 DUP	18-Nov-99	ND	100	ND
GMMW-03	23-Mar-00	ND	82	ND
GMMW-03 DUP	23-Mar-00	ND	74	ND

Sample Location	Date	Constituent (µg/L)		
		VC	TCE	PCE
Cleanup Standard		0.3	1.0	0.6
GMMW-03	15-Jun-00	ND	120	ND
GMMW-03 DUP	15-Jun-00	ND	120	ND
GMMW-03	11-Oct-00	ND	48	ND
GMMW-03 DUP	11-Oct-00	ND	47	ND
GMMW-03	28-Dec-00	ND	190	ND
GMMW-03 DUP	28-Dec-00	ND	190	ND
GMMW-03	07-Mar-01	ND	110	ND
GMMW-03 DUP	07-Mar-01	ND	110	ND
GMMW-03	02-Jul-01	ND	79	ND
GMMW-03 DUP	02-Jul-01	ND	92	ND
GMMW-03	26-Sep-01	ND	58	ND
GMMW-03 DUP	26-Sep-01	ND	63	ND
GMMW-03	07-Dec-01	ND	340	ND
GMMW-03 DUP	07-Dec-01	ND	320	ND
GMMW-03	14-Mar-02	ND	67	ND
GMMW-03 DUP	14-Mar-02	ND	66	ND
GMMW-03	27-Jun-02	ND	47	ND
GMMW-03 DUP	27-Jun-02	ND	49	ND
GMMW-03	18-Dec-02	ND	85	ND
GMMW-03 DUP	18-Dec-02	ND	94	ND
GMMW-03	11-Apr-03	ND	180	ND
GMMW-03 DUP	11-Apr-03	ND	180	ND
GMMW-03	08-Sep-03	NS	NS	NS
GMMW-03	08-Dec-03	ND	150	ND
GMMW-03 DUP	08-Dec-03	ND	150	ND
GMMW-03	19-Nov-04	ND	58J	ND
GMMW-03 DUP	19-Nov-04	ND	48J	ND
GMMW-03	28-Mar-06	ND	120	ND

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Table 1. Summary of Groundwater Monitoring Results for the Target VOCs, East Side Properties, Main Street Well Field, Elkhart, Indiana.

Constituent (µg/L)				
Sample Location	Date	VC	TCE	PCE
Cleanup Standard		0.3	1.0	0.6
GMMW-04	19-Jun-95	ND	14	ND
GMMW-04	17-Aug-95	ND	70	ND
GMMW-04	28-Dec-95	ND	36	ND
GMMW-04	22-Feb-96	ND	16	ND
GMMW-04	22-May-96	ND	47	ND
GMMW-04DUP	22-May-96	ND	46	ND
GMMW-04	21-Nov-96	ND	100	ND
GMMW-04	24-Feb-97	ND	28	ND
GMMW-04	23-May-97	ND	18	ND
GMMW-04	29-Aug-97	ND	85	ND
GMMW-04	22-Jan-98	ND	49	ND
GMMW-04	25-Feb-98	ND	12	ND
GMMW-04	03-Jun-98	ND	12	ND
GMMW-04	21-Aug-98	ND	47	ND
GMMW-04	08-Dec-98	ND	33	ND
GMMW-04	09-Mar-99	ND	40	ND
GMMW-04	25-May-99	ND	16	ND
GMMW-04	16-Sep-99	ND	84	ND
GMMW-04	18-Nov-99	ND	45	ND
GMMW-04	23-Mar-00	ND	23	ND
GMMW-04	15-Jun-00	ND	15	ND
GMMW-04	11-Oct-00	ND	38	ND
GMMW-04	28-Dec-00	ND	37	ND
GMMW-04	07-Mar-01	ND	48	ND
GMMW-04	02-Jul-01	ND	6	ND
GMMW-04	26-Sep-01	ND	12	ND
GMMW-04	07-Dec-01	ND	21	ND
GMMW-04	14-Mar-02	ND	6.6	ND
GMMW-04	27-Jun-02	ND	ND	ND
GMMW-04	18-Dec-02	ND	17	ND
GMMW-04	11-Apr-03	ND	19	ND
GMMW-04	08-Sep-03	NS	NS	NS
GMMW-04	8-Dec-03	ND	67	ND
GMMW-04	19-Nov-04	ND	26	ND
GMMW-04	28-Mar-06	ND	24	ND

Constituent (µg/L)				
Sample Location	Date	VC	TCE	PCE
Cleanup Standard		0.3	1.0	0.6
MW-10	19-Jun-95	ND	ND	ND
MW-10 DUP	19-Jun-95	ND	ND	ND
MW-10	17-Aug-95	ND	ND	ND
MW-10 DUP	17-Aug-95	ND	ND	ND
MW-10	17-Oct-95	ND	ND	ND
MW-10 DUP	17-Oct-95	ND	5.7	ND
MW-10	28-Dec-95	ND	ND	5
MW-10	22-Feb-96	ND	ND	ND
MW-10 DUP	22-Feb-96	ND	ND	ND
MW-10	22-May-96	ND	ND	ND
MW-10	27-Aug-96	ND	ND	ND
MW-10 DUP	27-Aug-96	ND	ND	ND
MW-10	21-Nov-96	ND	ND	ND
MW-10 DUP	21-Nov-96	ND	ND	ND
MW-10	24-Feb-97	ND	ND	ND
MW-10	23-May-97	ND	ND	ND
MW-10	29-Aug-97	ND	ND	ND
MW-10	22-Jan-98	ND	ND	ND
MW-10	25-Feb-98	ND	ND	ND
MW-10	03-Jun-98	ND	ND	ND
MW-10	21-Aug-98	ND	ND	ND
MW-10	08-Dec-98	ND	ND	ND
MW-10	09-Mar-99	ND	ND	ND
MW-10	25-May-99	ND	ND	ND
MW-10	16-Sep-99	ND	ND	ND
MW-10	18-Nov-99	ND	ND	ND
MW-10	23-Mar-00	ND	ND	ND
MW-10	15-Jun-00	ND	ND	ND
MW-10	11-Oct-00	ND	ND	ND
MW-10	28-Dec-00	ND	ND	ND
MW-10	07-Mar-01	ND	ND	ND
MW-10	02-Jul-01	ND	ND	ND
MW-10	26-Sep-01	ND	ND	ND
MW-10	07-Dec-01	ND	ND	ND
MW-10	14-Mar-02	ND	ND	ND
MW-10	27-Jun-02	ND	ND	ND
MW-10	18-Dec-02	ND	ND	ND
MW-10	11-Apr-03	ND	ND	ND
MW-10	8-Sep-03	ND	ND	ND
MW-10	8-Dec-03	ND	ND	ND
MW-10	19-Nov-04	ND	ND	ND
MW-10	28-Mar-06	ND	ND	ND

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Table 1. Summary of Groundwater Monitoring Results for the Target VOCs, East Side Properties, Main Street Well Field, Elkhart, Indiana.

Sample Location	Date	Constituent (µg/L)		
		VC	TCE	PCE
Cleanup Standard		0.3	1.0	0.6
MW-27	19-Jun-95	ND	ND	ND
MW-27	17-Aug-95	ND	6.4	ND
MW-27	17-Oct-95	ND	5.1	ND
MW-27	28-Dec-95	ND	6	ND
MW-27	22-Feb-96	ND	5	ND
MW-27	22-May-96	ND	ND	ND
MW-27	27-Aug-96	ND	ND	ND
MW-27	21-Nov-96	ND	17	ND
MW-27	24-Feb-97	ND	7.9	ND
MW-27	23-May-97	ND	5.6	ND
MW-27	29-Aug-97	ND	6.2	ND
MW-27	22-Jan-98	ND	ND	ND
MW-27	25-Feb-98	ND	ND	ND
MW-27 DUP	25-Feb-98	ND	ND	ND
MW-27	03-Jun-98	ND	ND	ND
MW-27	21-Aug-98	ND	5.9	ND
MW-27	08-Dec-98	ND	ND	ND
MW-27	09-Mar-99	ND	ND	ND
MW-27	25-May-99	ND	ND	ND
MW-27	16-Sep-99	ND	6	ND
MW-27	18-Nov-99	ND	5.1	ND
MW-27	23-Mar-00	ND	ND	ND
MW-27	15-Jun-00	ND	ND	ND
MW-27	11-Oct-00	ND	ND	ND
MW-27	28-Dec-00	ND	ND	ND
MW-27	07-Mar-01	ND	ND	ND
MW-27	02-Jul-01	ND	ND	ND
MW-27	26-Sep-01	ND	5.9	ND
MW-27	07-Dec-01	ND	ND	ND
MW-27	14-Mar-02	ND	ND	ND
MW-27	27-Jun-02	ND	ND	ND
MW-27	18-Dec-02	ND	7.1	ND
MW-27	11-Apr-03	ND	ND	ND
MW-27	8-Sep-03	ND	3	ND
MW-27	8-Dec-03	ND	2.8	ND
MW-27	19-Nov-04	NS	NS	NS
MW-27	28-Mar-06	NS	NS	NS

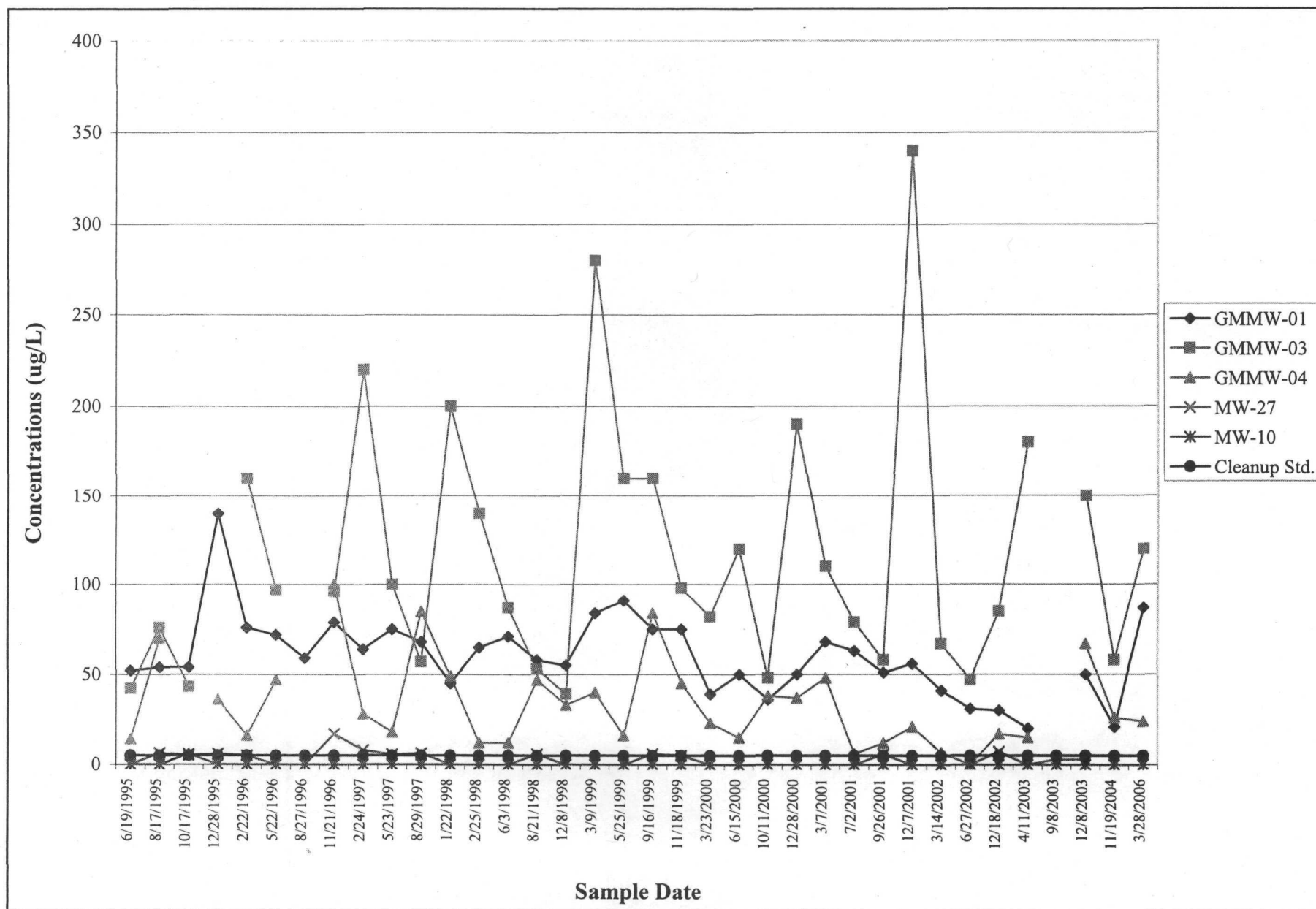
Sample Location	Date	Constituent (µg/L)		
		VC	TCE	PCE
Cleanup Standard		0.3	1.0	0.6
Trip Blank	19-Jun-95	ND	ND	ND
Trip Blank	17-Aug-95	ND	ND	ND
Trip Blank	17-Oct-95	ND	ND	ND
Trip Blank	22-Feb-96	ND	ND	ND
Trip Blank	22-May-96	ND	ND	ND
Trip Blank	27-Aug-96	ND	ND	ND
Trip Blank	21-Nov-96	ND	ND	ND
Trip Blank	24-Feb-97	ND	ND	ND
Trip Blank	23-May-97	ND	ND	ND
Trip Blank	29-Aug-97	ND	ND	ND
Trip Blank	22-Jan-98	ND	ND	ND
Trip Blank	25-Feb-98	ND	ND	ND
Trip Blank	03-Jun-98	ND	ND	ND
Trip Blank	21-Aug-98	ND	ND	ND
Trip Blank	08-Dec-98	ND	ND	ND
Trip Blank	09-Mar-99	ND	ND	ND
Trip Blank	25-May-99	ND	ND	ND
Trip Blank	16-Sep-99	ND	ND	ND
Trip Blank	18-Nov-99	ND	ND	ND
Trip Blank	23-Mar-00	ND	ND	ND
Trip Blank	15-Jun-00	ND	ND	ND
Trip Blank	11-Oct-00	ND	ND	ND
Trip Blank	28-Dec-00	ND	ND	ND
Trip Blank	07-Mar-01	ND	ND	ND
Trip Blank	02-Jul-01	ND	ND	ND
Trip Blank	26-Sep-01	ND	ND	ND
Trip Blank	14-Mar-02	ND	ND	ND
Trip Blank	27-Jun-02	ND	ND	ND
Trip Blank	18-Dec-02	ND	ND	ND
Trip Blank	08-Sep-03	ND	ND	ND
Field Blank	19-Jun-95	ND	ND	ND
Field Blank	17-Aug-95	ND	ND	ND
Field Blank	11-Apr-03	ND	ND	ND
Field Blank	8-Dec-03	ND	ND	ND
Trip Blank	19-Nov-04	ND	ND	ND
Trip Blank	28-Mar-06	ND	ND	ND

All concentrations reported in micrograms per liter (µg/L).

ND Indicates that the compound was analyzed for but was not detected.
 VC Vinyl Chloride
 NS Not sampled
 J Estimated

TCE Trichloroethene
 PCE Tetrachloroethene
 Detected concentration exceeds groundwater cleanup standard.

Figure 2. Graph of TCE Groundwater Concentrations vs. Time,
East Side Properties, Main Street Well Field, Elkhart, Indiana



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Table 1. Summary of Groundwater Monitoring Results for Target VOCs, March 2006 Sampling Event, East Side Properties, Main Street Well Field, Elkhart, Indiana.

Constituent (µg/L)	Cleanup Standard	Sample Location							
		GMMW-01	GMMW-02	GMMW-03	GMMW-04	MW-10	MW-27	GM-DUP	Trip Blank
Volatile Organic Compounds									
cis/Trans- 1,2-Dichloroethylene		ND	NS	0.63J	ND	13	NS	ND	ND
Vinyl Chloride	0.3	ND	NS	ND	ND	ND	NS	ND	ND
Trichloroethene	1	87	NS	120	24	ND	NS	88	ND
Tetrachloroethene	0.6	ND	NS	ND	ND	ND	NS	ND	ND

All concentrations reported in micrograms per liter (µg/L).

ND Indicates that the compound was analyzed for but was not detected.

NS Not sampled

J Estimated

GM-DUP Duplicate sample collected from Monitoring Well GMMW-01.

Detected concentration exceeds groundwater cleanup standard.

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Table 2. Monitoring Well, Land Surface, and Groundwater Elevations for March 2006 Sampling Event, East Side Properties, Main Street Well Field, Elkhart, Indiana.

Well	Measuring Point Elevation	Land Surface Elevation	Well Depth (ft bls)	Top of Screen Elevation	Bottom of Screen Elevation	DTW Below MP	Groundwater Elevation
GMMW-01	742.66	740.16	14.95	732.16	727.16	9.24	733.42
GMMW-02	750.56	747.76	20.56	734.06	729.06	14.93	735.63
GMMW-03	742.97	740.47	15.03	732.27	727.27	9.58	733.39
GMMW-04	746.20	743.70	19.19	731.70	726.70	13.04	733.16
MW-10	742.00	739.50	39.93	712.00*	702.00*	9.14	732.86
MW-27	749.06	746.56	NM	729.00*	719.00*	NM	NM

Elevations are reported in feet above mean sea level (MSL).

NM Not measured

All depth to water (DTW) measurements recorded relative to north side top of casing.

MP Measuring point.

ft bls Feet below land surface.

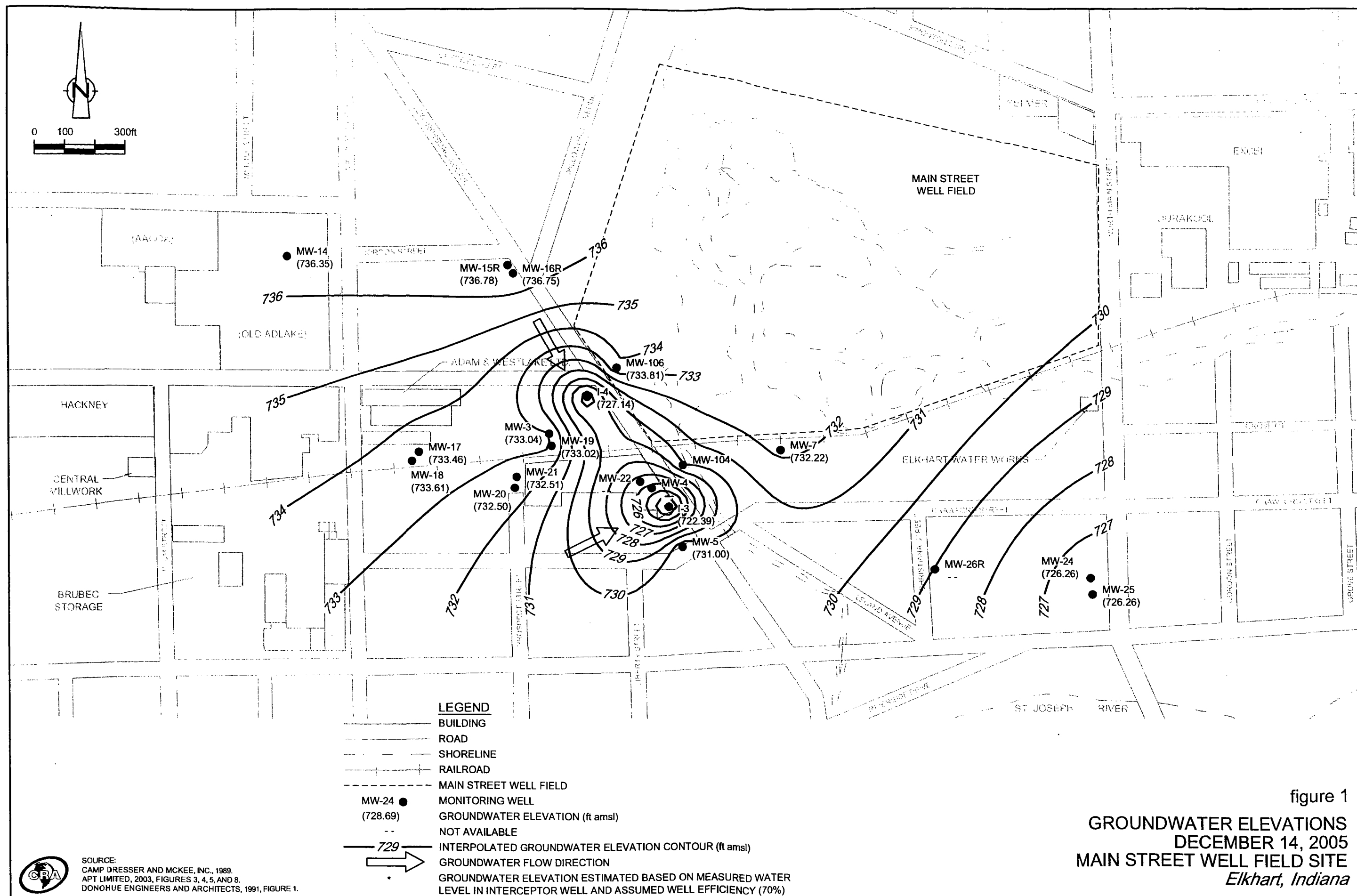
* Source: Remedial Investigation Report for Main Street Well Field, Elkhart, Indiana, May 1989.

ATTACHMENT 8

WEST SIDE

GROUNDWATER MONITORING

DATA



SOURCE:
 CAMP DRESSER AND MCKEE, INC., 1989.
 APT LIMITED, 2003, FIGURES 3, 4, 5, AND 8.
 DONOHUE ENGINEERS AND ARCHITECTS, 1991, FIGURE 1.

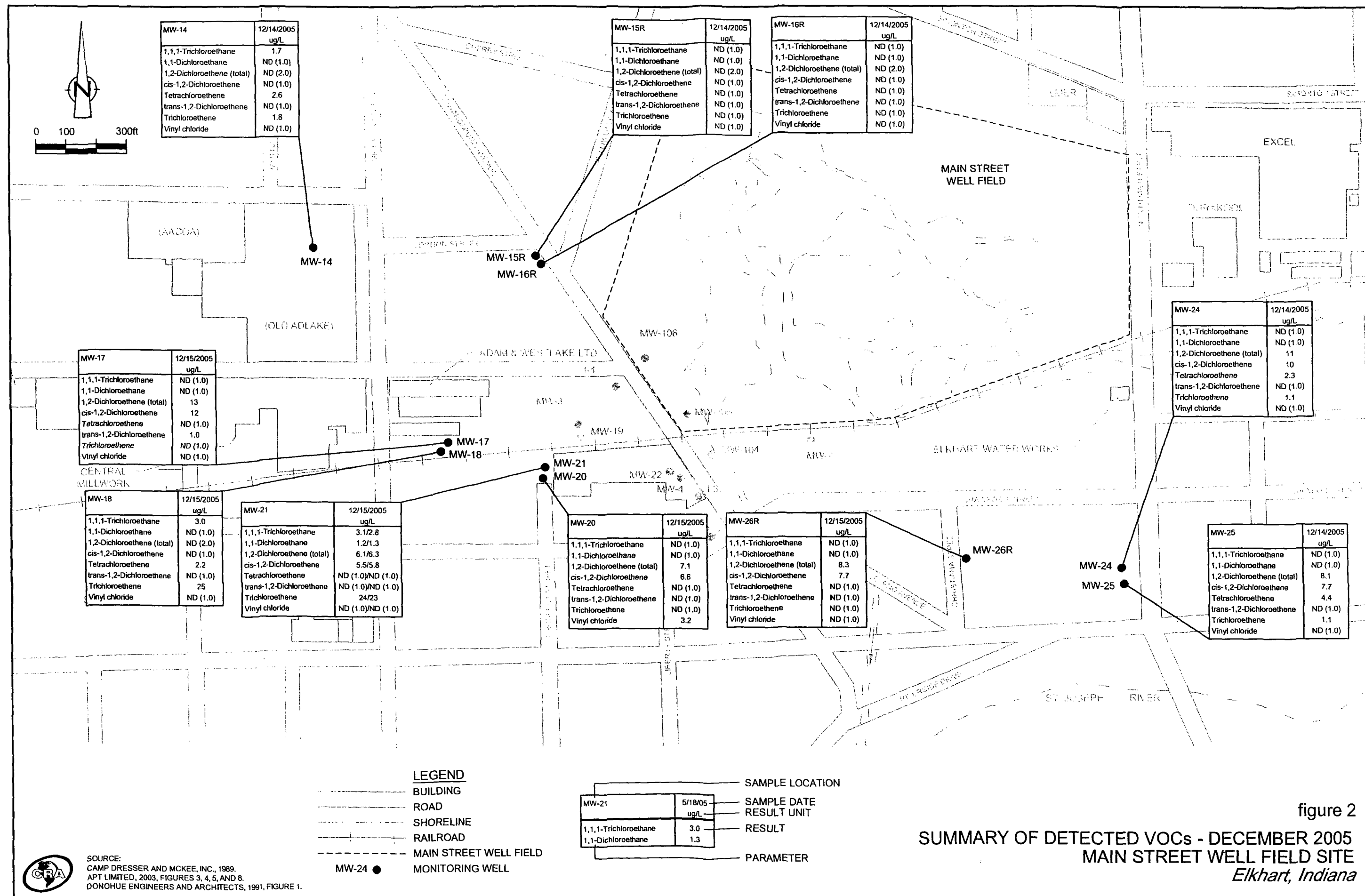


TABLE 1

**GROUNDWATER ELEVATION SUMMARY
MAIN STREET WELL FIELD SITE
ELKHART, INDIANA**

Well Identifier	Reference Elevation (Top of Casing) (ft AMSL) ¹	5/17/05		12/14/05		Comments
		Depth to Groundwater (ft BTOC) ²	Groundwater Elevation (ft AMSL)	Depth to Groundwater (ft BTOC) ²	Groundwater Elevation (ft AMSL)	
MW-3	749.83	21.82	728.01	16.79	733.04	
MW-4	750.00	25.45	--	NR ⁴	--	Well buried under snow pile
MW-5	750.66	24.78	725.88	19.66	731.00	
MW-7	750.89	26.82	724.07	18.67	732.22	
MW-14	748.16	13.59	734.57	11.81	736.35	
MW-15R	747.39	16.46	730.93	10.61	736.78	
MW-16R	747.20	16.26	730.94	10.45	736.75	
MW-17	749.92	19.83	730.09	16.46	733.46	Damaged concrete pad
MW-18	750.14	20.05	--	16.53	733.61	Cleared obstruction at 20 feet (roots)
MW-19	748.84	20.76	728.08	15.82	733.02	
MW-20	749.60	20.97	728.63	17.10	732.50	
MW-21	749.14	20.45	728.69	16.63	732.51	
MW-22	750.66	25.93	--	NR	--	Well buried under snow pile
MW-24	750.86	27.73	723.13	24.60	726.26	
MW-25	751.36	27.23	724.13	25.10	726.26	
MW-26R	NS ³	22.32	--	NR	--	Frozen inside cap
MW-104	748.32	24.20	724.12	NR	--	Well buried under snow pile
MW-106	750.13	25.73	724.40	16.32	733.81	
I-3	750.39	39.5	710.89	40.0	710.39	
I-4	750.64	33.0	717.64	33.5	717.14	

¹ ft AMSL - feet above mean sea level

² ft BTOC - feet below top of casing

³ NS - Not surveyed, no elevation information.

⁴ NR - Depth to groundwater not recorded during monitoring event

TABLE 2

**MONITORING WELL PURGING SUMMARY
MAIN STREET WELL FIELD SITE
DECEMBER 2005
ELKHART, INDIANA**

<i>Well Identifier</i>	<i>Date</i>	<i>Gallons Purged</i>	<i>pH (Std. Units)</i>	<i>Conductivity (ms/cm)¹</i>	<i>Temp. (°C)</i>	<i>Observations</i>
MW-14	12/14/2005	2.5	7.04	0.848	15.5	Clear
		5.0	7.11	0.839	15.8	Clear
		7.5	7.08	0.843	16.2	Clear
MW-15R	12/14/2005	7.0	7.23	0.582	11.8	Clear
		14.0	7.31	0.565	11.4	Clear
		21.0	7.30	0.563	11.7	Clear
MW-16R	12/14/2005	5.0	6.99	0.731	12.2	Clear
		10.0	7.13	0.671	13.4	Clear
		15.0	7.13	0.666	21.8	Clear
		20.0	7.20	0.600	12.6	
MW-17	12/15/2005	7.0	7.24	0.693	15.3	Clear
		14.0	7.25	0.676	15.6	Clear
		21.0	7.24	0.681	15.8	Clear
MW-18	12/15/2005	2.0	7.19	0.948	16.1	Clear
		4.0	7.02	0.966	16.6	Clear
		6.0	7.04	0.977	16.8	Clear
		8.0	7.05	0.982	16.5	Clear
MW-20	12/15/2005	7.0	7.35	0.651	15.5	Clear
		14.0	7.29	0.660	15.5	Clear
		21.0	7.30	0.664	15.4	Clear
MW-21	12/15/2005	3.0	7.27	0.755	15.3	Clear
		6.0	7.31	0.761	15.4	Clear
		9.0	7.32	0.763	15.1	Clear
MW-24	12/14/2005	4.0	7.25	0.524	12.1	Clear
		8.0	7.31	0.515	11.9	Clear
		12.0	7.28	0.518	12.4	Clear
MW-25	12/14/2005	3.0	7.87	0.509	13.1	
		6.0	7.84	0.522	13.7	
		9.0	7.34	0.522	13.9	
MW-26R	12/15/2005	5.0	7.19	0.530	9.5	Clear
		10	7.28	0.521	9.5	Clear
		15	7.29	0.519	9.3	Clear

¹ ms/cm - milliseimens/centimeter² mg/L - milligrams per liter³ mV - millivolts⁴ NTU - nephelometric turbidity unit

TABLE 3

**DECEMBER 2005 SAMPLE SUMMARY
MAIN STREET WELL FIELD SITE
ELKHART, INDIANA**

<i>Sample I.D.</i>	<i>Sample Location</i>	<i>QA/QC</i>	<i>Sample Date</i>	<i>Requested Analysis</i>
		--		
GW-121405-JH-001	MW-15R	MS/MSD	12/14/2005	TCL VOCs
GW-121405-JH-002	MW-16R	--	12/14/2005	TCL VOCs
GW-121405-JH-003	MW-14	--	12/14/2005	TCL VOCs
GW-121405-JH-004	MW-24	--	12/14/2005	TCL VOCs
GW-121405-JH-005	MW-25	--	12/14/2005	TCL VOCs
GW-121505-JH-006	MW-26R		12/15/2005	TCL VOCs
GW-121505-JH-007	MW-18	--	12/15/2005	TCL VOCs
GW-121505-JH-008	--	Rinsate	12/15/2005	TCL VOCs
GW-121505-JH-009	MW-17		12/15/2005	TCL VOCs
GW-121505-JH-010	MW-20	--	12/15/2005	TCL VOCs
GW-121505-JH-011	MW-21		12/15/2005	TCL VOCs
GW-121505-JH-012	MW-21	Duplicate	12/15/2005	TCL VOCs

Notes:

TCL VOCs - Target Compound List - Volatile Organic Compounds

QA/QC - Quality assurance/quality control

MS/MSD - Matrix spike/matrix spike duplicate

TABLE 4

SUMMARY OF GROUNDWATER ANALYTICAL DATA
DECEMBER 2005
MAIN STREET WELL FIELD SITE
ELKHART, INDIANA

Sample Location: Sample ID: Sample Date: Sample Type:	Maximum Contaminant Levels a	Default Closure Levels Residential b	Default Closure Levels Industrial c	MW-14 GW-121405-JH-003 12/14/2005 (orig)	MW-15R GW-121405-JH-001 12/14/2005 (orig)	MW-16R GW-121405-JH-002 12/14/2005 (orig)	MW-17 GW-121505-JH-009 12/15/2005 (orig)	MW-18 GW-121505-JH-007 12/15/2005 (orig)	MW-20 GW-121505-JH-010 12/15/2005 (orig)
<i>Volatile Organic Compounds (ug/L)</i>									
1,1,1-Trichloroethane	*	200	29000	1.7	ND (1.0)	ND (1.0)	ND (1.0)	3.0	ND (1.0)
1,1,2,2-Tetrachloroethane	*	0.9	14	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2-Trichloroethane	5	5	50	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethane	*	990	10000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethene	7	7	5100	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichloroethane	5	5	31	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichloroethene (total)	*	*	*	ND (2.0)	ND (2.0)	ND (2.0)	13	ND (2.0)	7.1
1,2-Dichloropropane	5	5	42	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
2-Butanone (Methyl Ethyl Ketone)	*	8400	61000	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Hexanone	*	*	*	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	*	2200	8200	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acetone	*	950	92000	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzene	5	5	52	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromodichloromethane	80	80	80	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromoform	80	80	360	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromomethane (Methyl Bromide)	*	11	140	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Carbon disulfide	*	1300	10000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Carbon tetrachloride	5	5	22	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chlorobenzene	100	100	2000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloroethane	*	62	990	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloroform (Trichloromethane)	80	80	1000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloromethane (Methyl Chloride)	*	*	*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
cis-1,2-Dichloroethene	70	70	1000	ND (1.0)	ND (1.0)	ND (1.0)	12	ND (1.0)	6.6
cis-1,3-Dichloropropene	*	*	*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Dibromochloromethane	*	*	*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Ethylbenzene	700	700	10000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methylene chloride	5	5	380	ND (1.0)	ND (1.8)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	100	100	20000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Tetrachloroethene	5	5	55	2.6	ND (1.0)	ND (1.0)	ND (1.0)	2.2	ND (1.0)
Toluene	1000	1000	20000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
trans-1,2-Dichloroethene	100	100	2000	ND (1.0)	ND (1.0)	ND (1.0)	1.0	ND (1.0)	ND (1.0)
trans-1,3-Dichloropropene	*	*	*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Trichloroethene	5	5	7.2	1.8	ND (1.0)	ND (1.0)	ND (1.0)	25 ^{abc}	ND (1.0)
Vinyl chloride	2	2	2	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	3.2 ^{abc}
Xylene (total)	10000	10000	20000	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)

Notes:

- All results are reported in ug/L (ppb)
- Criteria Data IDEM RJSC Residential and Industrial Default Closure Levels and EPA MCL
- * = Criteria not established for this analyte.
- Concentrations boxed and bold exceed the applicable Criteria.
- "U" designates compound was not detected at or above the quantitation limit shown.

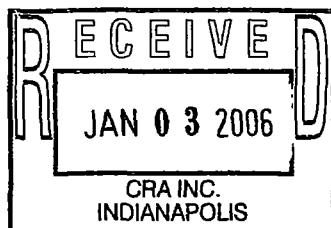
TABLE 4

**SUMMARY OF GROUNDWATER ANALYTICAL DATA
DECEMBER 2005
MAIN STREET WELL FIELD SITE
ELKHART, INDIANA**

Sample Location: Sample ID: Sample Date: Sample Type:	Maximum Contaminant Levels a	Default Closure Levels Residential b	Default Closure Levels Industrial c	MW-21 GW-121505-JH-011 12/15/2005 (orig)	MW-21 GW-121505-JH-012 12/15/2005 Duplicate	MW-24 GW-121405-JH-004 12/14/2005 (orig)	MW-25 GW-121405-JH-005 12/14/2005 (orig)	MW-26R GW-121505-JH-006 12/15/2005 (orig)
Volatile Organic Compounds (ug/L)								
1,1,1-Trichloroethane	*	200	29000	3.1	2.8	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2,2-Tetrachloroethane	*	0.9	14	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1,2-Trichloroethane	5	5	50	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethane	*	990	10000	1.2	1.3	ND (1.0)	ND (1.0)	ND (1.0)
1,1-Dichloroethene	7	7	5100	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichloroethane	5	5	31	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1,2-Dichloroethene (total)	*	*	*	6.1	6.3	11	8.1	8.3
1,2-Dichloropropane	5	5	42	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
2-Butanone (Methyl Ethyl Ketone)	*	8400	61000	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Hexanone	*	*	*	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	*	2200	8200	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acetone	*	950	92000	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzene	5	5	52	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromodichloromethane	80	80	80	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromoform	80	80	360	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Bromomethane (Methyl Bromide)	*	11	140	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Carbon disulfide	*	1300	10000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Carbon tetrachloride	5	5	22	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chlorobenzene	100	100	2000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloroethane	*	62	990	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloroform (Trichloromethane)	80	80	1000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloromethane (Methyl Chloride)	*	*	*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
cis-1,2-Dichloroethene	70	70	1000	5.5	5.8	10	7.7	7.7
cis-1,3-Dichloropropene	*	*	*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Dibromochloromethane	*	*	*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Ethylbenzene	700	700	10000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Methylene chloride	5	5	380	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	100	100	20000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Tetrachloroethene	5	5	55	ND (1.0)	ND (1.0)	2.3	4.4	ND (1.0)
Toluene	1000	1000	20000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
trans-1,2-Dichloroethene	100	100	2000	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
trans-1,3-Dichloropropene	*	*	*	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Trichloroethene	5	5	7.2	24^{abc}	23^{abc}	1.1	1.1	ND (1.0)
Vinyl chloride	2	2	2	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Xylene (total)	10000	10000	20000	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)

Notes:

1. All results are reported in ug/L (ppb)
2. Criteria Data IDEM RISC Residential and Industrial Default Closure Levels and EPA MCL
3. * = Criteria not established for this analyte.
4. Concentrations boxed and bold exceed the applicable Criteria.
5. "U" designates compound was not detected at or above the quantitation limit shown.



STL[®]

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 37900

MAIN STREET WELL FIELD


Lot #: A5L160240

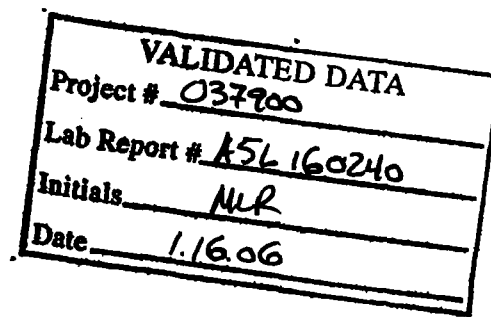
SDG #: 5L16240

Michael Richardson

Conestoga Rovers & Associates,
1811 Executive Drive
Suite 0
Indianapolis, IN 46241

SEVERN TRENT LABORATORIES, INC.


Amy L. McCormick
Project Manager



December 29, 2005

CASE NARRATIVE

5L16240

The following report contains the analytical results for twelve water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Main Street Well Field Site, project number 37900. The samples were received December 16, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Michael Richardson on December 22, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 46.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 2.2°C.

GC/MS VOLATILES

The analytical results met the requirements of the laboratory's QA/QC program.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride
Acetone
2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper
Iron
Zinc
Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprep and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprep and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence - Participating Lab Status Award (#82)

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EXECUTIVE SUMMARY - Detection Highlights

A5L160240

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
GW-121405-JH-001 12/14/05 12:30 001				
Methylene chloride	1.8	1.0	ug/L	SW846 8260B
GW-121405-JH-003 12/14/05 14:20 003				
1,1,1-Trichloroethane	1.7	1.0	ug/L	SW846 8260B
Trichloroethene	1.8	1.0	ug/L	SW846 8260B
Tetrachloroethene	2.6	1.0	ug/L	SW846 8260B
GW-121405-JH-004 12/14/05 16:35 004				
cis-1,2-Dichloroethene	10	1.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	11	2.0	ug/L	SW846 8260B
Trichloroethene	1.1	1.0	ug/L	SW846 8260B
Tetrachloroethene	2.3	1.0	ug/L	SW846 8260B
GW-121405-JH-005 12/14/05 17:20 005				
cis-1,2-Dichloroethene	7.7	1.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	8.1	2.0	ug/L	SW846 8260B
Trichloroethene	1.1	1.0	ug/L	SW846 8260B
Tetrachloroethene	4.4	1.0	ug/L	SW846 8260B
GW-121505-JH-006 12/15/05 08:50 006				
cis-1,2-Dichloroethene	7.7	1.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	8.3	2.0	ug/L	SW846 8260B
GW-121505-JH-007 12/15/05 10:05 007				
1,1,1-Trichloroethane	3.0	1.0	ug/L	SW846 8260B
Trichloroethene	25	1.0	ug/L	SW846 8260B
Tetrachloroethene	2.2	1.0	ug/L	SW846 8260B
GW-121505-JH-009 12/15/05 11:05 009				
cis-1,2-Dichloroethene	12	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	1.0	1.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	13	2.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A5L160240

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
GW-121505-JH-010 12/15/05 13:05 010				
cis-1,2-Dichloroethene	6.6	1.0	ug/L	SW846 8260B
Vinyl chloride	3.2	1.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	7.1	2.0	ug/L	SW846 8260B
GW-121505-JH-011 12/15/05 13:40 011				
cis-1,2-Dichloroethene	5.5	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	1.2	1.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	6.1	2.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	3.1	1.0	ug/L	SW846 8260B
Trichloroethene	24	1.0	ug/L	SW846 8260B
GW-121505-JH-012 12/15/05 14:30 012				
cis-1,2-Dichloroethene	5.8	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	1.3	1.0	ug/L	SW846 8260B
1,2-Dichloroethene (total)	6.3	2.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	2.8	1.0	ug/L	SW846 8260B
Trichloroethene	23	1.0	ug/L	SW846 8260B
TRIP BLANK 12/15/05 013				
Methylene chloride	5.0	1.0	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A5L160240

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

ASL160240

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLE DATE
HR9X5	001	GW-121405-JH-001	12/14/0
HR97V	002	GW-121405-JH-002	12/14/0
HR970	003	GW-121405-JH-003	12/14/0
HR973	004	GW-121405-JH-004	12/14/0
HR977	005	GW-121405-JH-005	12/14/0
HR979	006	GW-121505-JH-006	12/15/0
HR98D	007	GW-121505-JH-007	12/15/0
HR98G	008	GW-121505-JH-008	12/15/0
HR98H	009	GW-121505-JH-009	12/15/0
HR98J	010	GW-121505-JH-010	12/15/0
HR98K	011	GW-121505-JH-011	12/15/0
HR98N	012	GW-121505-JH-012	12/15/0
HR98P	013	TRIP BLANK	12/15/0

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121405-JH-001

GC/MS Volatiles

Lot-Sample #....: A5L160240-001 Work Order #....: HR9X51AA Matrix.....: WG
 Date Sampled....: 12/14/05 12:30 Date Received...: 12/16/05
 Prep Date.....: 12/20/05 Analysis Date...: 12/20/05
 Prep Batch #....: 5355062
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	1.8	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene	ND	2.0	ug/L
(total)			
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

(Continued on next page)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121405-JH-001

GC/MS Volatiles

Lot-Sample #....: A5L160240-001 Work Order #....: HR9X51AA Matrix.....: WG

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	88	(73 - 122)
1,2-Dichloroethane-d4	89	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	84	(74 - 116)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121405-JH-002

GC/MS Volatiles

Lot-Sample #....: A5L160240-002 Work Order #....: HR97V1AA Matrix.....: WG
 Date Sampled....: 12/14/05 13:30 Date Received...: 12/16/05
 Prep Date.....: 12/20/05 Analysis Date...: 12/20/05
 Prep Batch #....: 5355062
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene	ND	2.0	ug/L
(total)			
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

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Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121405-JH-003

GC/MS Volatiles

Lot-Sample #....: A5L160240-003 Work Order #....: HR9701AA Matrix.....: WG
 Date Sampled....: 12/14/05 14:20 Date Received...: 12/16/05
 Prep Date.....: 12/20/05 Analysis Date...: 12/20/05
 Prep Batch #....: 5355062
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene	ND	2.0	ug/L
(total)			
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	1.7	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	1.8	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	2.6	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

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Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121405-JH-004

GC/MS Volatiles

Lot-Sample #....: ASL160240-004 Work Order #....: HR9731AA Matrix.....: WG
 Date Sampled....: 12/14/05 16:35 Date Received...: 12/16/05
 Prep Date.....: 12/20/05 Analysis Date...: 12/20/05
 Prep Batch #....: 5355062
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	10	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene	11	2.0	ug/L
(total)			
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	1.1	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	2.3	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

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Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121405-JH-005

GC/MS Volatiles

Lot-Sample #....: A5L160240-005 Work Order #....: HR9771AA Matrix.....: WG
 Date Sampled....: 12/14/05 17:20 Date Received...: 12/16/05
 Prep Date.....: 12/20/05 Analysis Date...: 12/20/05
 Prep Batch #....: 5355062
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	7.7	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene (total)	8.1	2.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	1.1	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	4.4	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

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Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121505-JH-006

GC/MS Volatiles

Lot-Sample #....: A5L160240-006 Work Order #....: HR9791AA Matrix.....: WG
 Date Sampled....: 12/15/05 08:50 Date Received...: 12/16/05
 Prep Date.....: 12/21/05 Analysis Date...: 12/21/05
 Prep Batch #....: 5355174
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	7.7	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene (total)	8.3	2.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

(Continued on next page)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121505-JH-007

GC/MS Volatiles

Lot-Sample #....: ASL160240-007 Work Order #....: HR98D1AA Matrix.....: WG
 Date Sampled....: 12/15/05 10:05 Date Received...: 12/16/05
 Prep Date.....: 12/21/05 Analysis Date...: 12/21/05
 Prep Batch #....: 5355174
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene (total)	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	3.0	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	25	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	2.2	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

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Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121505-JH-008

GC/MS Volatiles

Lot-Sample #....: A5L160240-008 Work Order #....: HR98G1AA Matrix.....: WG
 Date Sampled....: 12/15/05 10:10 Date Received...: 12/16/05
 Prep Date.....: 12/21/05 Analysis Date...: 12/21/05
 Prep Batch #....: 5355174
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene (total)	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

(Continued on next page)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121505-JH-009

GC/MS Volatiles

Lot-Sample #....: A5L160240-009 Work Order #....: HR98H1AA Matrix.....: WG
 Date Sampled....: 12/15/05 11:05 Date Received...: 12/16/05
 Prep Date.....: 12/21/05 Analysis Date...: 12/21/05
 Prep Batch #....: 5355174
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	12	1.0	ug/L
trans-1,2-Dichloroethene	1.0	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene	13	2.0	ug/L
(total)			
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

(Continued on next page)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121505-JH-010

GC/MS Volatiles

Sample #: ASL160240-010 Work Order #: HR98J1AA Matrix: WG
 Sample Date: 12/15/05 13:05 Date Received: 12/16/05
 Sample Time: 12/21/05 Analysis Date: 12/21/05
 Sample #: 5355174
 Factor: 1 Method: SW846 8260B

	RESULT	REPORTING LIMIT	UNITS
1,1-Dichloroethene	6.6	1.0	ug/L
1,2-Dichloroethene	ND	1.0	ug/L
Acetone	ND	1.0	ug/L
Acetone	ND	1.0	ug/L
Chloride	3.2	1.0	ug/L
Acetone	ND	1.0	ug/L
Acetone chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Acetone disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,2-Dichloroethene	ND	1.0	ug/L
1,2-Dichloroethene (total)	7.1	2.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

(Continued on next page)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121505-JH-011

GC/MS Volatiles

Sample #....: A5L160240-011 Work Order #....: HR98K1AA Matrix.....: WG
 Date Sampled....: 12/15/05 13:40 Date Received...: 12/16/05
 Prep Date.....: 12/21/05 Analysis Date...: 12/21/05
 Prep Batch #....: 5355174
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	5.5	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	1.2	1.0	ug/L
1,2-Dichloroethene	6.1	2.0	ug/L
(total)			
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	3.1	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	24	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

(Continued on next page)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: GW-121505-JH-012

GC/MS Volatiles

Lot-Sample #....: A5L160240-012 Work Order #....: HR98N1AA Matrix.....: WG
 Date Sampled....: 12/15/05 14:30 Date Received...: 12/16/05
 Prep Date.....: 12/21/05 Analysis Date...: 12/21/05
 Prep Batch #....: 5355174
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	5.8	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	1.3	1.0	ug/L
1,2-Dichloroethene	6.3	2.0	ug/L
(total)			
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	2.8	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	23	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Xylene	ND	1.0	ug/L
Arenes (total)	ND	2.0	ug/L

(Continued on next page)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #....: A5L160240-013 Work Order #....: HR98P1AA Matrix.....: WQ
 Date Sampled....: 12/15/05 Date Received...: 12/16/05
 Prep Date.....: 12/21/05 Analysis Date...: 12/21/05
 Prep Batch #....: 5355174
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	5.0	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene (total)	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Xyrene	ND	1.0	ug/L
Arenes (total)	ND	2.0	ug/L

(Continued on next page)

ATTACHMENT 9

SITE INSPECTION REPORT



"KASARABADA,
PRABHAKAR"
<PKASARAB@idem.IN.gov>
04/16/2007 01:16 PM

To

Subject RE: Main Street Well Field - Draft 5 Year Review

History:

✉ This message has been replied to.

The five year review site inspection was conducted on April 11, 2007, by the State Project Manager Mr. Prabhakar Kasarabada, and the Operations Supervisor, City of Elkhart, Mr. Michael Keleman. The inspection included the west side interceptor wells (IWs) I-1, I-2, I-3, and I-4 located at the North Main Street and Edwardsburg Avenue. The IWs were well secured with fence and are in good condition. The on-site biking and walking trails were in good condition. All other remedial components such as monitoring wells, air strippers, pumps and the connecting pipes were in good condition. Photographs were taken using a digital camera showing the site conditions. There were no major issues noted related to the West Side of the site. The East Side of the site was inspected by the State Project Manager and Mr. Paul L. Marshall, of Atwood Mobile Products, located at 1120 North Main Street, Elkhart. The shut-down In-situ Soil Vapor Extraction System (ISVES) was well secured and all the supporting components were found to be intact. No significant changes were noted at the site that would impact the protectiveness of remedy in place.

---Original Message---

From: Hill.Lolita@epamail.epa.gov [mailto:Hill.Lolita@epamail.epa.gov]
Sent: Thursday, April 12, 2007 3:29 PM
To: Bruce.Donald@epamail.epa.gov; KASARABADA, PRABHAKAR;
Melodia.Craig@epamail.epa.gov; Linebaugh.Stephanie@epamail.epa.gov;
Bianchin.Sheri@epamail.epa.gov
Subject: Main Street Well Field - Draft 5 Year Review

Everyone:

Here's the draft five year review for Main Street Well Field. Please forward your comments to me asap. The Superfund Division has moved the due date of this review to June 2007. Thanks for your assistance in expediting this review.

(Don: Could you please forward to me the email address for the State IC reviewer or anyone that I may have forgotten? Thanks.)

(See attached file: MainStreet 5 Year Review May 2007.doc)

ATTACHMENT 10
SITE INSPECTION PHOTOS



CITY OF ELKHART

ESB
ESTD
2000





















